# AMERICAN BEE JOURNAL

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April 1940

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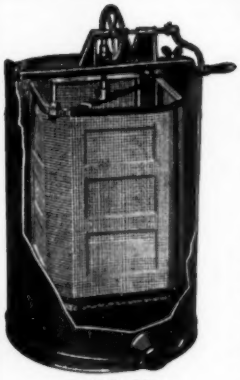

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# AMERICAN BEE JOURNAL

EDITORS: G. H. CALE, FRANK C. PELLETT, M. G. DADANT, J. C. DADANT

APRIL, 1940 Vol. LXXX No. 4

Let's Have Orderly Marketing—*R. H. Dadant* ..... 149
Editorial ..... 152
The Pageant of Spring ..... 154
Beekeeping and Fruit Growing in the Hudson Valley—*George H. Rea* ..... 156
Honey as a Stimulant to the Rooting of Cuttings —*R. W. Oliver* ..... 158
Wisconsin Fair Scores High—*M. E. Francis* ..... 159
Watering Devices ..... 160
The Progeny Test—*Hy W. Sanders* ..... 162
Laying Workers—*Mykola Haydak* ..... 163
What is Royal Jelly?—*Frank C. Pellett* ..... 164
Rendering Beeswax—Part II—*E. L. Sechrist* ..... 166
Making a Profit Out of Packages—*G. H. Cale* ..... 168
This and That ..... 172
Meetings and Events ..... 175
Crop and Market Report—*M. G. Dadant* ..... 183
Postscript ..... 192

## Cover Picture—Dandelion

Wind borne voyagers from the silky heads of dandelion travel to new ground. "Beekeepers' roses" some call dandelion. In western Iowa and eastern Nebraska, the golden flowers of this grent nectar and pollen plant often cover many acres in a single area of bloom.

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## ● NEXT MONTH

SWARM CONTROL ♦ Sometimes it is easy to reduce swarming to an unimportant minimum; at other times, bees swarm in spite of anything the beekeeper can do to prevent them. G. H. Cale sets down a few things which should always be done to keep swarming from becoming a May riot * * * * * * * * SECTION COMB HONEY PRODUCTION ♦ A. H. Bowen, a skillful English beekeeper, gives his successful management for comb honey * * * * * * * HOW A COOPERATIVE MAKES A SOUND MARKET ♦ The most freely supported and well managed cooperative in the world is the Ontario Honey Producers' Cooperative, Limited. One of its most ardent leaders is Dr. E. J. Dyce, of Guelph. He gives us an example to follow.

ADVERTISING PAGES REMOVED




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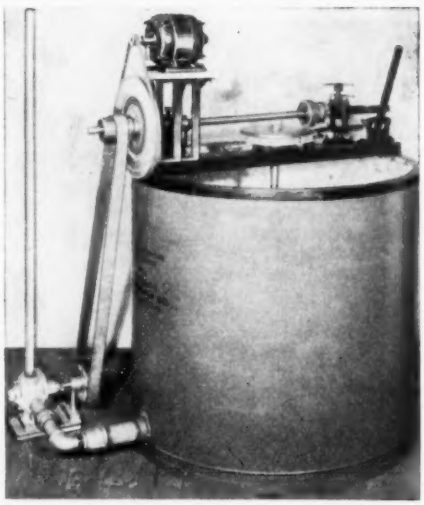

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Robert H. Dadant

# LET'S HAVE ORDERLY MARKETING

FUNDAMENTALLY, the two ways to increase any price are to cut down the supply or to increase the demand. Personally, we'd all hate to see the first of these put into effect in the case of honey. We'd hate to destroy some of our bees in a general plan to cut production.

Even from a less selfish viewpoint, it's hard to believe that America is to prosper and find a "more abundant life" through a planned schedule of producing less. The only way we can expect to have more automobiles, airplanes, television sets and other things not yet dreamed of, is first to have too many bushels of corn and bales of cotton. The oversupply will be turned to new uses and men will be released from the production of necessities and will be able to produce more luxuries. This transition from one occupation to another may be rather drastic, especially in our highly developed civilization, but it is bound to come.

It could be possible that honey production is in that position. Maybe we are at the place where some beekeepers are going to have to pack up and move on to another occupation. But a look at the facts will disprove that possibility. With the consumption of honey per capita in this country at about two pounds, consumption of refined sugar is over one hundred pounds. At the same time, doctors claim that too much refined sugar in the diet is causing many internal troubles all the way from constipation to tooth decay. There is certainly plenty of room for increasing the use of honey.

Bringing about this increase consists first of advertising and putting the product continually before the public eye and in its mind. But it also consists of getting widespread distribution so that honey is available to the customer whenever and wherever he wants it. It consists of controlling the quality of honey put on the market so that the customer is always satisfied and gets honey that is physically like what he bought before.

For years beekeepers have been urged to go out in their home community and sell as much of their honey as they can, thus increasing the market for it. I think that idea has hurt the honey market more than it has helped it. It's fine for every beekeeper to be an advertiser for honey and to encourage its use, but the bulk of our honey will have to be packed and distributed through central bottling plants before the general use of honey and the price of honey increase much.

There are many reasons for this. In the first place, although many beekeepers take pains with their honey and have the equipment to put out a good product, quite a few furnish a poor quality honey that discourages the buyer and hurts the market tremendously. A new customer who gets hold of an unsatisfactory product is not likely to try honey again. Then, too, there is no uniformity in the quality of honey put up by small individual packers. No uniformity between packers and no assurance of uniformity in the honey any one beekeeper sells from season to season.

Another drawback to this system is caused by the great difference in the amount of honey an individual produces from year to year. If he has a large crop he must spread out and increase the territory he covers to dispose of his crop. But if the next year's crop is small, he is likely to forget that extra market and just sell the honey he produced. This haphazard marketing cannot succeed. The market cannot be expected to go looking for the product. We will have to keep after each market continually to keep the honey moving.

During the producing season, the beekeeper is usually busy with his bees and has no time to sell honey. Or perhaps he has run out long ago and must wait for the new crop. In order to move honey the markets must be kept supplied twelve months of the year. Honey will sell in summer as well as in winter.

Finally, a well-directed, adequate advertising campaign can hardly be financed if it depends for support on the individual beekeepers. During the past few years, under this system, it has been a

(Please turn to page 178)

# PACKAGE BUYERS!

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**Finest Quality ❖ Prompt Service ❖ Careful Handling ❖ Fair Price**

If you have not been able to get ALL OF THESE, write us now.

We have all the qualifications—*Ability, Capacity, Quality, Service and Price*—necessary to furnish the kind of package bees and queens you want, when you want them.

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3rd. Insures vigorous, prolific queens,
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6th. Honey and make a reputation for,

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Lynch, Willis, Tehama, Calif.
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Youngblood, Frank, Manteca, Calif.

Our Association will have for sale at $2.25 each, some hundred and fifty, three-pound packages of bees. These bees have been donated to the association by the members and are being offered for spring delivery. Anyone interested in this lot of bees, please write our secretary, T. L. Nicolaysen, Salida, California.

# EDITORIAL

## AMERICAN HONEY INSTITUTE FUNCTIONS

IT has recently come to our attention that inquiries have been coming in to the American Honey Institute asking that organization to do some lobbying for various bee inspection projects and for research work, etc.

However, the function of that organization is only in honey promotion through various publicity mediums and it should not be called upon to use its personnel or assets to influence the county, state or national legislations.

The Institute directors are on record as feeling that efforts of this kind should be confined to the American Honey Producers' League which due to its greater and broader representation has a greater influence on legislative bodies than has the Institute.

The American Honey Institute, of course, is eager to do anything it can to improve the status of the bee and honey industry, but it has its limitations based on its functions as laid down by the Board of Directors, as well as its limited funds for correspondence and personal contacts to influence legislation.

One can readily see that it would be a mistake for the Institute to dabble in politics or controversial subjects where it can better serve the entire honey producing industry by sticking to publicity for honey and a better appreciation of the value of honey on the part of the public.

♦

## A BEEKEEPING MUSEUM

IT would seem that the beekeeping industry is of sufficient importance to justify at least one museum which would record its history in visible form. Dr. L. M. Gates started such a museum at the Massachusetts College of Agriculture and made substantial progress in securing suitable material. Since he severed his connection with that institution, the museum has been given but little attention.

At present the one museum of beekeeping receiving recognition worth while is at Cornell University, Ithaca, New York. It is not suitably equipped as yet, or provided with sufficient exhibit space; but if public interest develops, these should come in due time. Many a worthy effort has been permitted to die for lack of interest on the part of those it was intended to benefit.

The generation of men who established beekeeping as a commercial industry has passed from the stage of action. The things with which they worked are rapidly disappearing and unless some agency is active in bringing them together there will be but little left to demonstrate the things with which they built.

There is still time to bring together enough equipment of historic importance to make a very interesting display and to show the evolution of the beehive, the honey extractor, the smoker and other items of everyday use. Things of intimate association with Langstroth, Quinby, Wagner and other pioneers will grow in interest with the years. The industry should show enough interest in this effort to insure its continuance and to justify the time and expense necessary to success.

♦

## HONEY AND HEALTH

AN Iowa grocer was overheard to advise the greater use of honey in the home of a customer. He stated that honey is used exclusively instead of sugar in his home because it is more healthful. Such person-to-person advertising of the merits of honey is on the increase and is certain to result in substantial improvement in demand.

In nearly every large city there is one or more health stores which specialize in unrefined foods and these offer unusually good outlets for honey.

There seems but little question that commercial interests have led us too far in the use of refined foods and that many persons are suffering ill

health because of unbalanced diet. The health movement is becoming more popular and gaining an ever increasing number of recruits. Perhaps more is often claimed for honey than it merits, but certainly the beekeeper is in position to gain from the agitation for simpler living.

♦

## SECURITY AND THE SIMPLE LIFE

A very interesting little magazine called "Three Acres and Security" is published at Elgin, Illinois. It advocates the return to the sanity of former years when every family raised a garden and produced a part of the living at home. The following quotation from a recent issue is typical:

> "Today large numbers of American people are denying themselves land ownership by crowding into great centers. Giving up the security of the land in the hope of eventual riches, they have lost both security and riches."

A perusal of this little journal brings vividly to memory the old days when beekeeping was carried on as a sideline to some other venture. Recalling the security and contentment of that period one cannot but wonder whether in our specialization in an effort to increase income through larger volume we have not lost as much in security and independence as we have gained in increased income.

♦

## BEEKEEPING FOR THE AGED

UNTIL recently the number of elderly men engaged in beekeeping was a common cause of comment. Whether those engaged in beekeeping lived to greater age or whether they took up beekeeping because they were too old for more strenuous occupation never seemed quite clear.

Certainly in former days the beekeeper led a quiet life which tended toward a placid existence and one free from worry. Light occupation in the open air together with a contented mind favor long life.

More recently beekeeping has changed in character from a quiet occupation to a very busy one with many of the objections common to other occupations. In the effort to secure larger volume of output, the beeman has followed the lead of others and has undertaken more than he can do comfortably. Like the farmer who raises more corn to feed more hogs to buy more land, he now keeps more bees to raise more honey to buy more bees. Increased financial demands together with lower prices for honey may account for this change, or it may be due to the fact that more young men with ambition for financial success have become beekeepers.

As age advances and there is less inclination or ability to manage exacting business, the bees still offer opportunity for pleasant and profitable occupation under healthful conditions. The proportion of men thus occupied is so much smaller than in former years that they no longer appear as representative of the industry. Honey production is now recognized as a business, rather than as an occupation for the aged or those otherwise incapacitated.

♦

## TOO MUCH LIFTING

ONE of America's well-known women, member of a family of international prominence, has given up her bees. The reason is that she found difficulty in lifting the heavy supers when filled with honey. A devotee of gardening and other out-of-door activities she was an enthusiastic beekeeper, but unwilling to depend upon others to attend her apiary.

With all the progress in apiary management we are still dependent upon strong arms for hive manipulation. Not only women but many men find great difficulty in getting through with the work that comes with a good crop of honey. The larger the crop, the more labor is necessary and the greater the problem for one of slight build.

It would seem that with our present form of management no way to escape the lifting is in sight. This is perhaps one very good reason for the popularity of the small hive in some localities.

The one who finds a means of eliminating heavy lifting from the apiary will confer a large benefit upon a grateful industry.

# THE PAGEANT

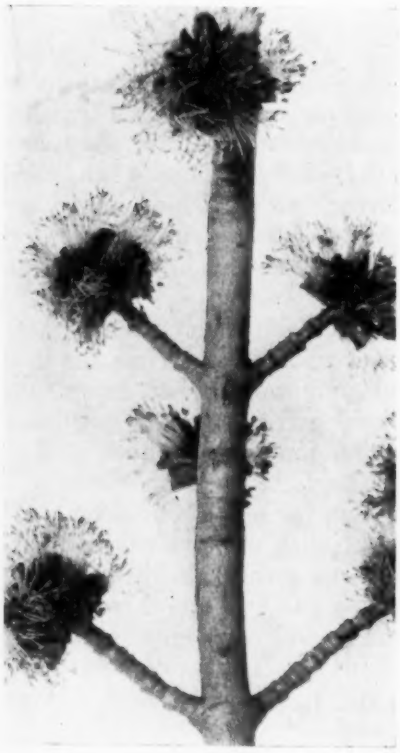
# OF SPRING

IN these days of race for record crop production, often embracing two or three hundred pounds per colony, beekeepers, in the actual practice of honey production, often lose sight of the importance of minor nectar sources. If it were not for the effect of these minor sources, however, in increasing the colony population, large crops would often not be possible.

Many locations, as far as a main crop is concerned, are so situated that after the crop is over, there is little for the bees to bring them to winter in good condition, and insufficient bloom in spring to take the colonies that winter releases and build them up again. In other words, many locations are one crop locations and nothing more.

On the other hand, an otherwise somewhat indefinite location in respect to major honey plants will make a large return because the colonies that go into the harvest are strong in bees, with a large field force ready to take advantage of even a small acreage. Colonies brought to this condition by a period of spring growth due to a concentration of pollen and minor nectar plants are superior to those emerging from a niggardly location.

The prosperity of a colony in spring may be measured by the natural pollen the bees are able to secure early for brood rearing. Many locations are not kind and leave colonies short of a pollen reserve for winter. It is thought that the bees themselves carry a protein supply in their bodies in winter, partially for their own needs, and partially to start brood rearing in spring. However, this source is never sufficient to continue brood rearing beyond a minimum and any progressive increase in brood must come from the hive or from spring bloom. There are few locations, however, where



Top of page, at left, the flowers of persimmon, and at the right, the inconspicuous bloom of wild grape. Below, in the same order, maple, plum, and locust.

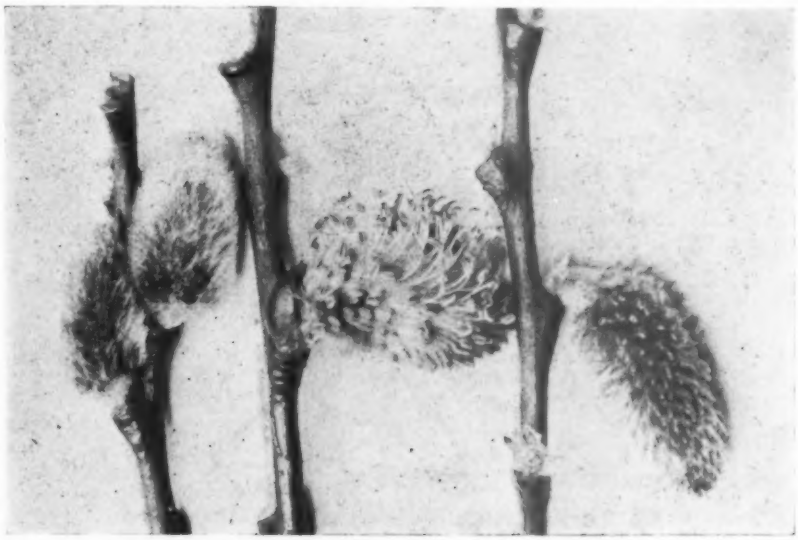
the supply of pollen in fall and winter is sufficient and spring flowers still remain the most important contributors of pollen. There is probably no other time of year when this food is more important to the development of the colony.

So the pageant of spring, with its nectar and pollen, will build, from small beginnings, a colony of large population to gather honey for the beekeeper, and his surplus may be in direct proportion to the efficiency of his spring location.

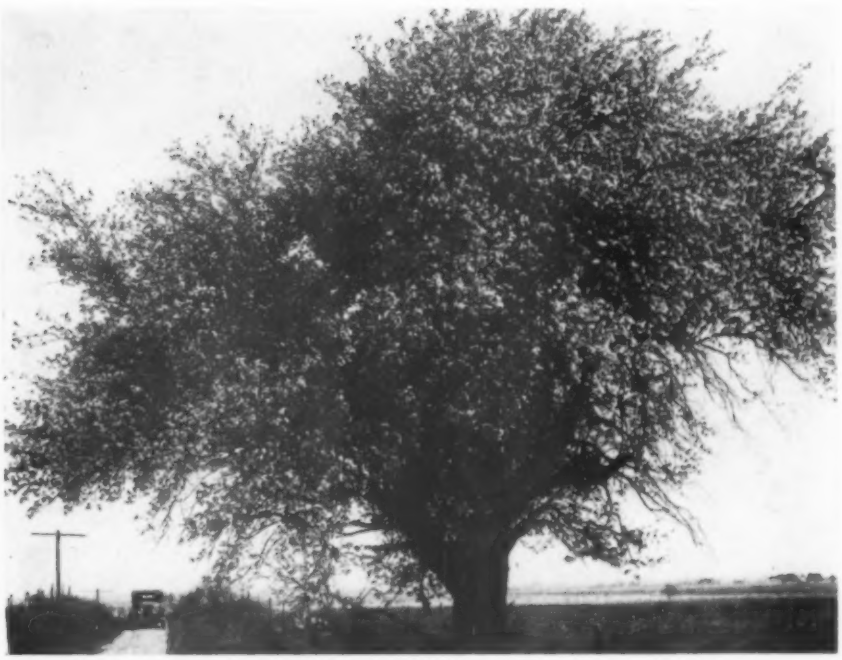
Maples and early willows precede fruit, apple, pear, peach, and, in the lowlands and river valleys, red bud, wild plum, and choke cherry; later locust and dandelion appear, and in some places persimmon and wild grape all of which are important early nectar sources.

Often it is profitab'e to keep bees in such locations to provide rapid colony increase in spring, and later to a major source such as sweet clover. Much apiary management which has an important after effect on the colony may be done in the favorable spring location. There is probably no time of year when it is more easy to find queens, or to replace them with young vigorous layers. Acceptance is never more certain. In our own requeening, we have come to depend on this spring period for the major portion of our requeening operations.

Choke cherry



Above, pussy willow bloom. Below, red bud, and at the right, an apple tree in full bloom.



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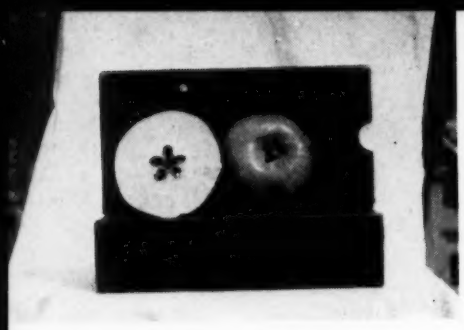
It is also possible in the spring to eliminate disease, to do colony work with little robbing, with the net result that every colony is on its way to prosperity with a few well planned operations. Once supplied with the necessary factors for full development, colonies may be left alone until it is time to move them for the honey crop should such a move be necessary.



An example of perfect pollination. The seeds form a star in the center of the halved apple.

# BEEKEEPING AND FRUIT GROWING IN THE HUDSON VALLEY

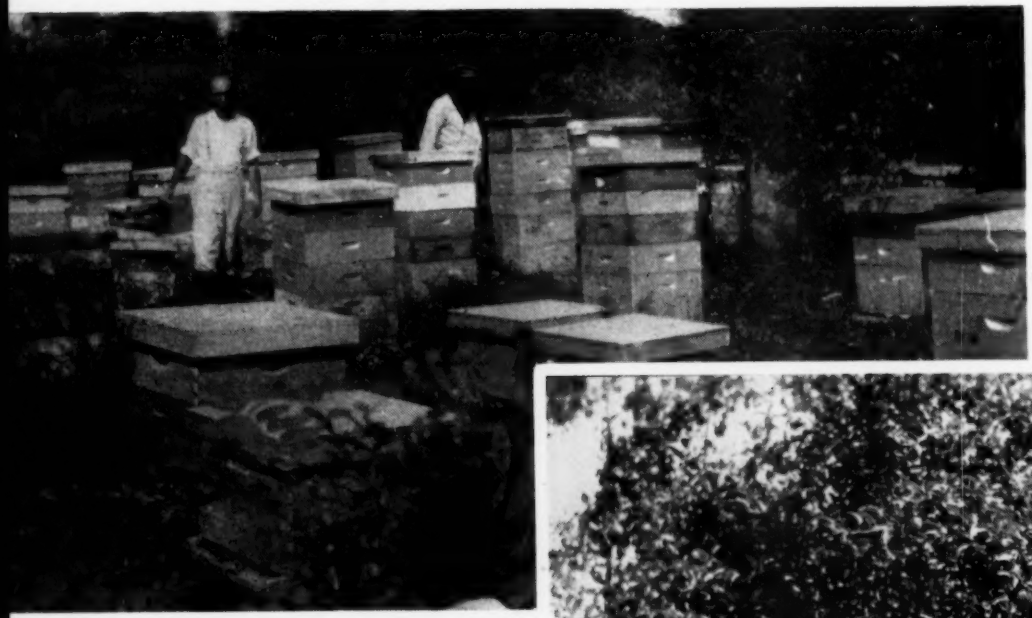
By GEORGE H. REA

THE Hudson River has its beginnings in numerous mountain springs and small streams of clear, cold water in the Adirondack Mountains and flows southward to the Atlantic Ocean through a narrow but fertile valley, amid natural scenery, which for freshness and beauty has few equals. Numerous smaller streams unite with the Hudson all along its course, while at Albany the Mohawk leaves its famous and historical valley to pour its waters into the Hudson. The great Barge Canal, which, like a huge serpent, intersects New York State from Buffalo to Albany, delivers its wealth of commerce from the Great Lakes and the West to the Hudson River over almost the entire length of the Mohawk. From the port of Albany, ocean-going vessels, passenger steamers, and lighter craft make the mighty Hudson an important commercial artery to the sea.

Dutchess, Columbia, Rensselaer, Rockland, Ulster, Greene, and Albany, with parts of Orange, Schenectady, Schoharie, Saratoga and Washington counties comprise the great fruit growing area of the Hudson Valley. Colonies of bees by the hundreds, apples by the hundreds of thousands of bushels, together with huge crops of sweet and sour cherries, pears, peaches, plums, and small fruits hold an interesting story of the cooperation of men and bees and fruit blossoms.

Ulster and Green counties on the west side, with Dutchess and Columbia counties on the east side of the river, comprise the more intensive fruit growing area of the Hudson Valley, while in these counties the greater part of the fruit area is in a comparatively narrow strip of land near the river. On the west side of the valley, the Catskill Mountains rise majestically, providing not only a scenic background but an important windbreak against severe storms from the west. This fact, together with the broken and hilly nature of the valley and the mild climate, has an important bearing upon beekeeping practice in the orchards. It has been found that in this area the bees may be placed in groups of several colonies each, in and around the orchards, rather than to be distributed in single colonies all over the orchard. This is possible because during the time of the fruit blossoms the temperatures are usually high enough for extended bee flight, with a considerable percentage of sunshine. Protection from wind in ravines and on the sunny sides of hills may be found for the hive groups. This general practice is not desirable in some orchards in this area where the land is flat and the location windy.

The east side of the valley is rolling and broken also and rises gradually from the river until it merges into the barrier of the Berkshire Hills to the east. The Hudson River itself lies only a few feet above sea level in its entire course from Albany to the Atlantic Ocean. Tide flows all the way to Albany. In some respects the fruit growing belt along the Hudson Valley has characteristics of the coastal plains. The soil is mostly of high productivity and of sweet or neutral content. Legumes grow readily and sweet clover is an important cover crop in many orchards. The common white clover grows plentifully in some places, but because of climatic conditions, it is not a reliable source of nectar. Purple



Above—C. S. Rowe and his son, Edward, in one of their apiaries. Left—Apple tree limbs propped and breaking because of the good service of the honeybees.

loosestrife along the river and its tributaries, and basswood, black locust, sumac, tulip, goldenrod, asters, alsike, and sweet clover in varying quantities are some of the more important nectar sources.

Few beekeepers engaged in commercial honey production are found here, but numerous farmers and fruit growers own a few colonies each. Because of the varied sources of nectar, the honey is mostly mixed, except in some favored locations. The honey is mostly of good body and flavor; and, like all areas near large cities, a retail market is found for most of it. Per colony honey production is low, because there are few locations and few seasons in which the honeyflows are intense or dependable. Some exceptions to this rule have been noted.

Several years ago, some of the leading fruit growers became concerned of the fact that, while the orchard plantings were constantly increasing, and in spite of the fact that the trees were growing older and more capable of heavy bearing, satisfactory sets of apples, especially, were growing less in many orchards. To careful observers, this condition seemed to be correlated with the reduced number of colonies of honeybees. This condition became acute in 1928, and in 1929 the demand that something be done about it became insistent. Large numbers of colonies were placed in the orchards that year, resulting in marked increases in the fruit crops; and since that time the interest in keeping bees and renting bees for the orchards has steadily progressed.

In the meantime, an outstanding figure in Hudson Valley beekeeping stepped into the gap and rendered valuable aid to the solution of the problems incident to the use of bees for orchard pollination. About thirty years ago, Clarence S. Rowe, of Kingston, a skilled engineer and mechanic, a natural-born beekeeper and investigator, became interested in the possibilities of the use of honeybees for orchard pollination. For years it had been his business to find the cause and to remedy the effect when something went wrong with an engine; so when a fruit grower friend of his told him that his fruit crops were no longer profitable, Rowe set to work to find the cause. He was—and still is—a skilled beekeeper and already knew something of the value of bees for pollination. In 1929, he wrote. "I became interested in the work of bees for pollination about twenty years ago. I put twenty colonies of bees in the orchard of Fred Taber, at Highland. The orchard produced a fine crop every year for ten years, with bees. Then Mr. Taber died, and the bees were moved away. The next year, with no bees in the orchard, it did not bear half a crop and did not bear again until last year—with the return of 14 colonies of bees."

I have given the name of the orchard owner in this case because it is that of a real pioneer in orchard pollination and should go on record. This is an apple orchard, of several varieties, and apparently was at that time interplanted with compatible varieties.

Since Mr. Rowe has kept careful records over a period of years, some of his data taken from other orchards are of value. He tells of an orchard of 87 acres of 22-year-old trees, of several varieties, in which a solid block of McIntosh had in past years never produced a profitable crop, 480 bushels having been its largest crop. In 1930, thirty colonies of bees were placed in this orchard, and the record shows that the ensuing

A honey display in a store window on the main street of Kensington, New York. It was created by Rowe's Apiaries of that city.

McIntosh apple crop was 1580 barrels, while the 1931 crop was 1400 barrels and the 1932 crop 2000 barrels. The apple barrel at that time contained two and one-half bushels.

In another orchard of twenty acres of sixteen-year-old McIntosh apple trees, which had never yielded a profitable crop, twelve colonies of bees were placed in 1931. Mr. Rowe tells the story thus: "This orchard set so many apples that the trees were badly broken from the weight of the fruit."

Two more orchard records tell of 79 acres with 35 colonies and 67 acres with 30 colonies of bees. While the bushels of apples are not given, the results are evident, for Mr. Rowe further notes: "Every year the apples had to be thinned." From this point the notes refer mostly to beekeeping for pollination and show sound judgment, first-class beekeep-

A fine set, a good crop and perfectly shaped apples. The halved apple on page 156 is from this tree.

ing methods, and absolute honesty in his dealings with the fruit growers. "Larger hives and young queens with an abundance of stores go to make up a big, strong colony. I use a Jumbo hive with a shallow food chamber on all the year, and leave 75 to 80 pounds of honey on each colony every fall. One such colony for 2 acres has proved to me to be about right. . . . Do not get any surplus honey from these bees in the orchards. These larger colonies consume a larger amount of honey, and as the Hudson Valley is not a honey-producing section, and can be easily overstocked, there is small surplus and small apiaries."

A further quotation from Mr. Rowe's notes, in 1932, gives his personal observations as to the importance of strong colonies for orchard pollination. "Colonies with three or four combs of brood are of very little value. A colony should have nine or ten frames of brood, at least, by the first of May."

It seems unnecessary to quote further from the personal notes of this practical investigator in beekeeping, but he has collected data from personal observations regarding temperature, wild insect population, bee flight, and the number and locations of colonies in the orchards, which seem to be highly accurate. Rowe's Apiaries, owned and operated by Mr. Rowe and his son Edward, rent several hundred colonies annually to the fruit growers.

In recent years, there has been a heavy reduction in the number of colonies kept in and near the orchards. Poison spray has been largely responsible for the loss. It has been interesting to note the ever-increasing number of spray applications in the past thirty years. In the earlier days three applications were made in the spring and none in the summer. Usually only one of these applications contained poison. As the orchard plantings became more intense, insect pests and plant diseases grew more prevalent and more difficult to control, resulting in additional spray applications, until at present eight to twelve applications extending throughout the summer are not unusual. In 1936, hundreds of colonies were wiped out by spray poison in midsummer. Every summer many colonies are killed or badly damaged, and there is little to encourage the fruit grower to keep his own bees in this area.

In passing, it is inspiring to recognize the tremendous influence that famous beekeepers of the Hudson and Mohawk valleys and tributaries have had on American beekeeping. They include Moses Quinby, E. W. Alexander, Julius Hoffman, Captain Hetherington, Lyman C. Root, P. H. Elwood, Henry Gallup, N. D. West, W. D. Wright, and Charles Stewart, who is still living in Johnstown, not to mention many beekeepers now actively pursuing commercial honey production in the same area. In the main Hudson valley such men as Eugene Secor, John H. Martin (The Rambler), H. D. Cutting, and M. H. Mendleson were reared, who later made their contributions to American beekeeping in other states.

Cornell University
Ithaca, New York.

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# HONEY AS A STIMULANT TO THE ROOTING OF CUTTINGS*

By R. W. OLIVER

Periodically, someone finds a new use for honey in the human or animal diet. This year, at the Central Experimental Farm, Ottawa, Canada, the author has found that honey may prove of value to the plant kingdom as an aid to propagation of plants from greenwood cuttings.

Last winter during trials of several commercial preparations of the growth-stimulating chemicals, groups of cuttings of pyramid arborvitae were treated with honey. The base of the cuttings in one group was dipped in pure honey and the cutting planted immediately. Other groups were allowed to stand overnight in solutions of honey in water ranging from 5 per cent to 50 per cent.

This was simply tried on the basis that honey "might have something," and when the cuttings were removed from the frame at the end of eight weeks, the results were a pleasant surprise. All honey treated cuttings showed some stimulation, and those treated overnight in 25 per cent solution were as well rooted as any treated with the commercial preparations.

Following this, a well-planned experiment was carried on with chrysanthemums, using five different varieties and four replications of each treatment. The various treatments were as follows:

Control: Fantastex

Auxan powder x2 ppm. solution of napthylacetic acid

Rootone powder 25% solution honey

(x: 20 parts per million)

In previous work 20 ppm. naphthylacetic acid for six hours had proved the most successful treatment with this chemical. This was used as a comparison and the honey treated cuttings were given the same period of treatment.

Based on percentage of cuttings rooted in a given time, the results were as follows, putting the treatment in order of merit:

Honey: 20 ppm. napthylacetic acid
Rootone Auxan
Fantastex Control.

Rootone produced a slightly higher number of roots per cutting than did honey, but a slightly lower percentage strike.

During the past summer, further tests with honey were tried on greenwood cuttings of several shrubs such as lilac, spiraea, etc. A synthetic solution was also tried which contained the known sugars and acids of honey in their correct proportions.

Due to the necessity of dismantling the equipment before completion of the work, the results were not satisfactory, but showed that natural honey had some stimulating effect on root formation, though not so great with some plants as other substances. The synthetic solution proved definitely damaging, so that stimulation is probably due to some of the unknown substances in natural honey. As sucrose has earlier proved of some stimulating value, the action of the unknown substances may, however, simply be to neutralize the damaging quantity of acid apparently present in the synthetic solution.

This discovery is, of course, interesting to both the gardner and the beekeeper. It may prove to be a great convenience and of economic advantage to the former, as honey is more easily and cheaply obtained than the growth-stimulating chemicals To the beekeeper, however, the interest is largely academic as a little honey goes a long way in this work. If further tests prove honey to be equal to the other growth stimulants, one pound of honey would make enough solution to treat three or four thousand cuttings. Also, the number of nurserymen who will use such treatments is limited. The chief value to the beekeeper will be the indirect market built up by gardeners who buy a pail of honey to use on cuttings and end by eating a large proportion of it.

Division of Horticulture,
Central Experimental Farm,
Ottawa, Ontario.

* Contribution No. 548 from the Division of Horticulture, Experimental Farms Service.

# WISCONSIN FAIR SCORES HIGH

By M. E. FRANCIS

THE last paragraph in the State Fair premium list for the Bee and Honey Department in Wisconsin, reads as follows: "The Bee and Honey Department of the Wisconsin State Fair is now the largest and most complete in the United States." Do you agree? You must, as that little paragraph has appeared for some years without question. Perhaps only Wisconsin beekeepers have seen it and naturally why should they question it, except to enlarge on it!

But seriously, I have never heard it mentioned by an exhibitor. I think, however, now is the time to bring it out in the open either to be confirmed or denied. The exhibit accommodates thirteen individual booths, each approximately nine and one-half by five feet. A total of $670 is offered in the division, and an additional sum not to exceed $35 is given to exhibitors living 50 miles or more from the fair grounds in West Allis.

The stop and look appeal seems to have upset the exhibitors' hive. There is an indoor sport quite popular around the honey building. Just before the judge arrives, groups of exhibitors circle the building and do some unofficial judging. Then after the judge has left in a cloud of dust (they always leave in a hurry) these same groups check up on the judging. Some have been known to do a little boasting because the judge did almost as good as they had done.

But not so last year. The unofficial scores were as unfriendly to the official ones as a bee is to a dog. The results were interesting and I am sure the smoke will clear away by next Fair time. It always has.

Three more divisions complete the honey department:

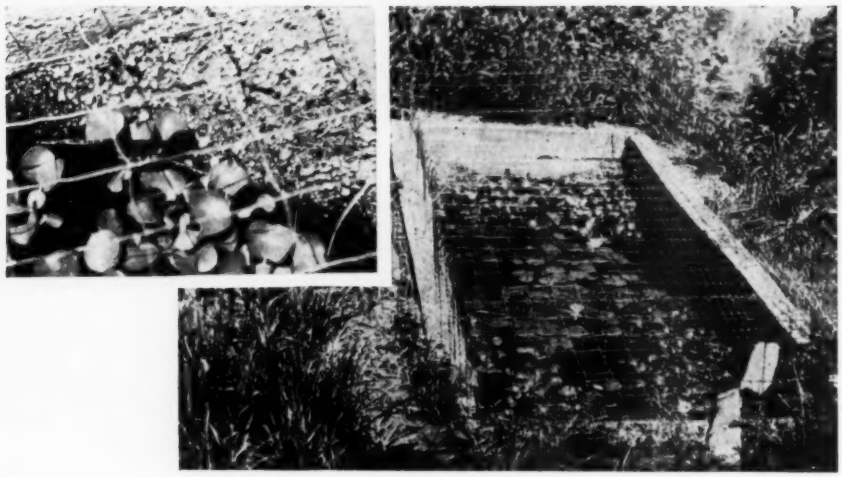
1. Individual display of comb honey. Individual display of extracted honey.
2. Honey culinary department.
3. Quality goods.

A total of $1,125 was offered in premiums for 1939 in the entire department. Divided more or less equally among 15 or 16 exhibitors, it gives each one a little change for his pockets.

Don't you wish you lived in Wisconsin? Or, don't you? Address all inquiries to the superintendent, James Gwin, Madison, Wisconsin.

West Allis, Wisconsin.

In 1938, the booth shown above received second premium at the Wisconsin State Fair. Its design is bold and its theme educational. Below and to the left are views of the 1939 booth of the same exhibitor. The essential theme seems to be lost in unimportant detail. This exhibit received eighth place.



Any beekeeper can supply this watering place for his bees. This one was made by our field editor at his Atlantic, Iowa, farm. It is a cement tank on a gravel bed, with a chicken wire top and fence, and water plants and fish to keep the water clear. In this case, water is from a windmill.

# WATERING DEVICES

THE question of water for bees is serious. Much misunderstanding has been caused between the beekeeper and his landlord over disturbances at watering places. The bees take great delight in satisfying their needs for water at stock tanks, watering troughs, refrigerator boxes, pumps, the old oaken bucket, or what have you; and in nine cases out of ten the resulting howl from some member of the landlord's family is bound to result at least in a period of adjustment, frequently in the preemptory demand to move "the damned bees."

Provision for water for the bee yard is a commercial beekeeping necessity. The best way is to select a site where water is provided by nature. Wherever this is possible, the permanency of the arrangement is satisfactory to all concerned.

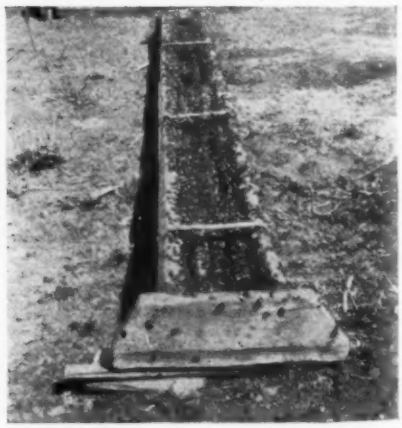
Here are pictures which give ideas for watering devices which may be used to advantage. The larger the yard, the greater the amount of water it will require. To keep watering devices with a constant supply is important.

Bees should find water handy in a new location as soon as they are able to survey their flight field. It is bad practice to move bees to a new location without water, because they will immediately establish watering habits difficult to break up.

The easiest source of water is a fresh and constant supply from some source such as a hose, or a large container kept full by the beekeeper and arranged to deliver its contents through devices like those suggested in the pictures.

If one is unfortunate enough to have located bees without consideration of the supply and is then requested to correct the disturbance which results, a good way is to put

Above, at the left, a simple, wooden trough, partly filled with water. Light boards are floating on the water to provide rests for the bees. Below, at the left a hollow tree trunk is a sightly and efficient waterer. The slatted trough below is never filled, but water is kept running through in a small stream, at the rate of twenty-five gallons a day, when it is needed. A tank at the far end is the supply.



out large containers of fresh water with floats for the bees and cotton balls of anise to attract them to the water. This is often sufficient to cause them to give up their visits to other local sources.

Stale water is not good and will frequently be abandoned. Water in which there is vegetation is frequently preferred to water without it. Bees will most readily go to a source provided by nature in which there is vegetation and sandy soil around the edge where they can get water from the natural capillarity of soil and plants so the bees themselves do not have to go to the open water to secure what they need.

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## SIGNS OF SPRING

A fine four-inch snow fell March 3, during the morning. February 29 was the first warm day the bees could fly, after about eleven weeks. In the home yard, every colony had a good flight, but in an outyard only about half the bees flew; the rest were buried in a snow drift, six feet deep. All appear to be alive, so I feel pretty good at the outcome.

J. Howard Wagner,
Central City, Nebraska.

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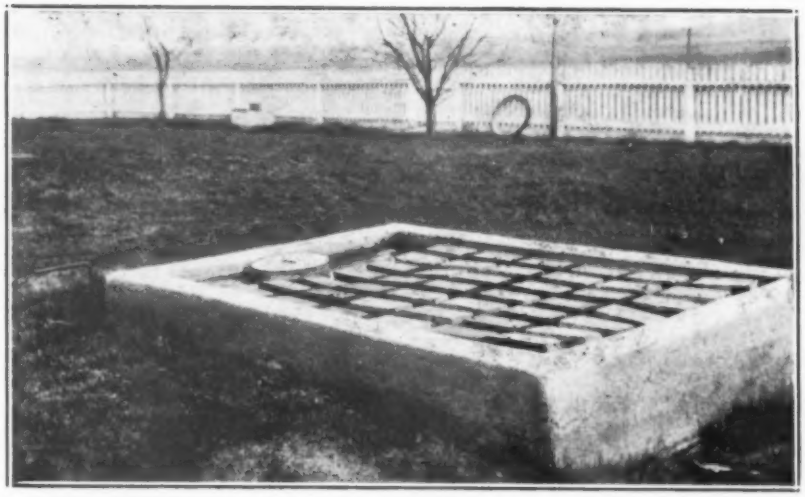

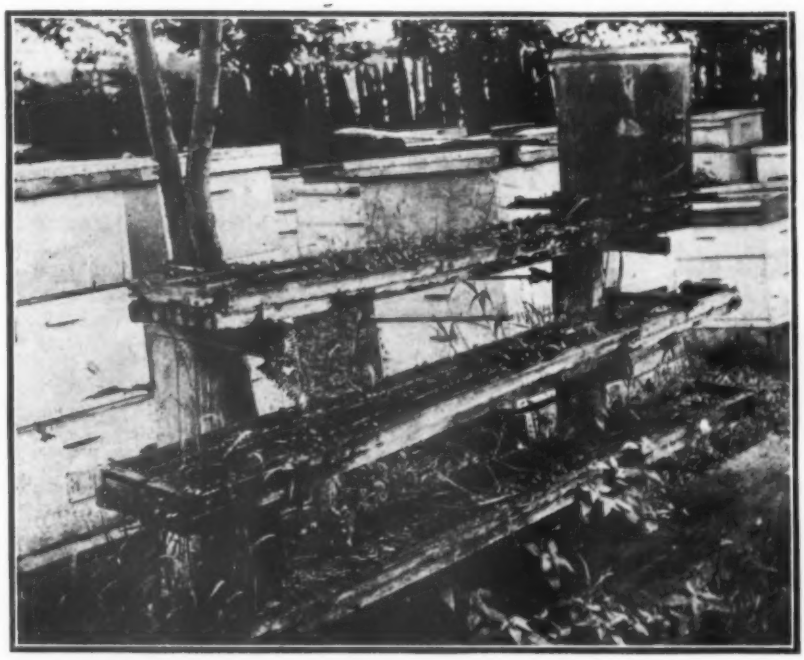

**Right:** At the top a cement tank, filled with cement blocks is connected to the water supply. A float and automatic cut-off keep the level constant. Next below, a V-shaped trough with ordinary lath slats, held apart by strips of leather. This float adapts itself to changing water levels. At the bottom, a three-tiered device. Immediately below, a tank with an inclined board and baffles past which the water slowly drips.

# THE PROGENY TEST

By HY. W. SANDERS

THE considerations which follow are suggested by E. C. Bessonet's excellent article in American Bee Journal for February. The tendency today is for queen raising to become a specialized business and honey production another specialized business; and unless there is real cooperation between them, there can be no progress made in raising better honey-gatherers. Queens are being bred in immense numbers in the South and sold to northern beekeepers, who are too busy to keep careful records of the production of each colony, or to check back with the breeder. The result is that the breeder is in the dark as to what his bees are doing after they leave his hands. He is, therefore, likely to concentrate on such things as color, and markings, which really do not matter except as "selling points" between the queen raiser and the honey producer.

Mr. Bessonet's idea, therefore, is a splendid one. By all means, let us have cooperation between the South and the North, so that the queen raiser may have records of performance which will enable him to select breeders by a progeny test.

I would like to suggest that we go further than this and endeavor to find out what physical characteristics of bees are associated with heavy production. If we inquire how it is that the dairyman has succeeded in breeding cows with heavy milk production, we shall find that it was a careful study of the various physical characteristics of the best cows. The size and quality of the mammary organs, milk veins, udder, etc., together with ability to consume large quantities of feed, and general conformation and constitution—these were studied carefully, generation by generation, and the most promising individuals selected and bred. The results have given us the prize-winning dairy cows which are as different from their ancestors as "Delicious" apples are different from crab apples.

The same sort of process has given us progress in the breeding of other animals. Hogs have been selected according to their physical conformation, not because anyone had any idea of hog beauty, but because certain types of bodily structure were associated with profitable production of pork and lard.

In these two cases, milk cows and hogs, the product is something that is produced right inside the animal, and it is fairly simple to ascertain what organs or parts of the body are most important, so that we can select for breeding, those animals which are best equipped. With honeybees, we have a more subtle problem; because their product is gathered from another source, it may not be quite so obvious which organs are the most useful. The length of the tongue has often been suggested, especially where red clover is within reach of the hives, but the size and strength of wings, the size of the honey sac, and possibly other physical characters may determine the result. Up to the present, about the only thing that has been considered in this connection has been the fecundity of the queen.

Of course the study of structure in such insects as bees calls for equipment and skill not often possessed by the commercial honey producer. It may be possible only for the experiment station or agricultural college. Yet it is not impracticable to the scientist. Perhaps he may develop apparatus by which a magnified image of a worker bee may be projected from the actual insect onto a screen, so that a group of students may be able to study it just as today they stand around a cow or hog in a stock-judging contest. Or it may be that painstaking care and measurements with special micrometers on a large number of bees from selected hives would show which of them possessed the desired characteristics. Obviously the first step in such a study would be to take a hive which had put up a big crop and see exactly what the bees look like at close quarters.

One of the most worn and best-beloved books on my shelves is Dr. Miller's "Fifty Years among the Bees." It was the first bee book I had, and in the quarter century during which I have had bees I have read it again and again. In his fifty years of beekeeping, Dr. Miller tried consistently to improve his strain of bees by breeding from his best producers. As he was a honey producer as well as his own queen raiser, and kept most careful records of every hive, he was practicing this method we now call the "progeny test," so it is not a new idea at all. Let me quote from him (page 218): "My sole business with bees being to produce honey, I am not particular to keep a popular breed of bees, only so far as their popularity comes from their profitableness as honey gatherers. I am anxious to have those that are industrious, good winterers, gentle, and not given to much swarming . . . For a good many years I preferred to rear from queens of my own . . . The chief thing considered was the amount of honey stored. Little or no attention was paid to color or temper, so I had bees that were hybrids, hustlers to store, but anything but angels in temper. Then beginning with 1906 I introduced quite a number of Italian queens . . . By the time of the year 1913 most of the black blood was worked out, and in that year when I obtained the world's record for the highest average of sections . . . my best yields were from colonies having three yellow bands."

The importance of the above quotation rests on the fact that Dr. Miller secured two record-breaking crops at a ten-year interval. One was in 1903, and the other in 1913. In the meantime he had introduced a number of Italians to try to get better-tempered stock. In 1909-10 he had a hard fight against European foulbrood which he cured by requeening. It was generally believed that Italians were immune to the disease; so, although Dr. Miller says he used hybrids to requeen, it is likely he selected hybrids that were most nearly Italian. At any rate his conclusion is that in his second big crop the best yields were from three-banders.

Now here is the "progeny test" in practice. For forty years Dr. Miller bred from his best producers; and if the story had stopped there we might assume that it was proved that he had developed a strain of bees which would, under all conditions, produce more honey than other bees. However, the story goes on for another ten years and in that time he changed his strain, the "black blood was worked out," and he got an even greater record with Italians.

Does it not seem reasonable to conclude that mere records of performance in crop gathering are insufficient as a basis for choosing foundation stock? We have got to tackle this problem in a more scientific way, and study the actual structure and organs of the bees to find out what makes them more productive. Then we must look for bees with those same characteristics and breed from them. During the years I have been reading the bee maga-

zines this subject has been almost continually discussed. It is always assumed that results are just around the corner, and the analogy with purebred cattle, hogs, and chickens is regarded as pointing the way. What progress has been made is only in the methods of breeding: Dr. Watson's insemination by instruments, the location of apiaries in secluded places away from other bees, and the European plan of permitting selected drones and queen to fly in the late afternoon when normal drone flight is over. The real field, which is rich with promise, must be along the lines of a careful study of those physical characteristics which are associated with the process of honey gathering and selection of breeding stock in accordance with the results of such investigations.

Morris, Manitoba.

# LAYING WORKERS

By MYKOLA H. HAYDAK

EVERY beekeeper knows that when a colony of bees becomes hopelessly queenless, worker bees start laying eggs and as a result frames are filled with drone brood in worker cells. Confronted with such a situation, the beekeeper may try several methods of requeening the colony. An old method which is still practiced in some places is to shake the bees somewhere outside the apiary and let them return to the old stand. It was believed that the laying workers would remain at the place where they were shaken where they could be killed, or where they would perish from starvation, or at least that they would not find their way back to the old location.

According to Perepelova, this assumption is not justified. She studied the behavior of the laying workers. There are 80-90% of bees in such a hive which have their ovaries containing eggs but only about 25% of them do actually lay eggs. The bees become restless when the laying workers are removed from the colony. Only during the act of egg laying there are several, three or four, bees around the laying worker as her entourage. Every laying worker lays only about 19-32 eggs during the whole time of its activity. In spite of the fact that they lay eggs, the laying workers clean the hive, the bees, bring nectar and pollen into the hive and perform all other tasks which a normal bee is supposed to do.

It is obvious that the shaking treatment does not help the colony because the laying workers return to the hive and continue their activities.

Some beekeepers add a frame of brood with a queen cell, introduce a virgin queen, run an old queen into the hive using a smoke method, or unite the laying worker colony with a queenright one.

In the University of Minnesota apiaries, the queen was always accepted when the introduction was made by the honey method as follows: take a frame with sealed honey and brood from the colony and place it flat on the frames of the hive. With your finger make a depression in the sealed honey. Dip the queen in the depression covering her completely with honey. Let her crawl slowly and place the frame cautiously into the hive. The queen starts laying without delay.

What is the cause of an appearance of laying workers in a hopelessly queenless colony? The increased nourishment of bees is the explanation given in the literature. There is no brood to feed, bees eat pollen and the excess of nutritive substances contributes to the development of the ovaries. However, when drone brood appears which is fed by the laying worker, they still lay eggs. Professor Kozhevnikov explained this fact by a suggestion that there are not enough larvae to be fed and therefore there is still an overabundance of nutritive materials in the bee body.

Nevertheless every beekeeper knows that if the queen is failing or unproductive, there are no laying workers in the colony in spite of the fact that there is but little or no brood to be cared for.

While conducting a study of various types of apiary management, at suggestion of Professor M. C. Tanquary, we performed the following experiment at the University. Just at the beginning of the honeyflow (June 30) two colonies were made, consisting of several three-pound packages of bees. One colony was left queenless, the other had the queen caged in the hive. Thirty-one days after the first colony was formed, an abundance of open drone brood was found in the hive. The second colony, in which the queen was caged did not have either eggs or brood for 65 days. On September 3 the queen was released and seven days later there were plenty of eggs, and larvae up to two days of age were found in the hive.

This observation shows that one cannot so easily explain all the phenomena in the life of a bee colony on the basis of a preconceived pattern. There are some other, I would like to say, psychological factors, which play an important role in the reactions of the bee colony toward the internal and external stimuli.

University of Minnesota, St. Paul.

Paper No. 406 Miscellaneous Journal Series, Minnesota Agricultural Experiment Station, St. Paul.

## HANDLING FOULBROOD

When foulbrood is found I take a garden truck sprayer with high test gasoline and spray the bees at intervals every ten or fifteen minutes.

The gas kills the bees at once and I make sure to destroy all the bees in the hive and all the field bees from the colony before I move this hive from its place. That way any fields bees are prevented from going to another hive and affecting it also.

I then move the hive from the yard, put the dead bees and combs on a brush pile, and burn them up. I invert the cover and the inner cover, take the body from the bottom board, turn my sprayer on them, making sure the gasoline hits every part and that burning gas continues to hook out every visible bit of wax and propolis for at least five minutes without injury. It does a quick, clean job and one does not have to use a scraper.

J. W. Fenske,
Blue Earth, Minnesota.

# WHAT IS ROYAL JELLY?

## Introducing R. M. Melampy, a scientist, who seeks the answer.

By FRANK C. PELLETT

THERE has been endless speculation by observers who have sought to account for the physical differences between the queen bee and the worker bee. Both are females and it has long been known that by a mere change of food and care the nurse bees could determine whether a particular individual would become a worker or a queen.

The changes that have resulted in the individual because of the amount of royal jelly which she was fed have been so marked that they have given rise to the thought that some near miraculous quality might be present in the food. The peculiar adaptation which provides for greatly expanded ovaries to permit the queen to lay eggs at an amazing rate, while the worker bee is given pollen baskets with which to carry home the food to sustain the growth of the young has caused much romantic discussion by many observers.

The honeybee is commonly held up as a model for a society in which there is no poverty and where all effort is put forth for the common good rather than for the benefit of the individual. The hive is also pointed out as an extreme example of the way in which early environmental influences affect adult behavior. Since the consumption of a sufficient amount of royal jelly changes a bee which would otherwise have been a worker into a queen, we find here a most striking example of environmental influence.

In order to separate fact from fancy and to secure some definite information as to the nature of royal jelly, a scientist on the staff of the Bureau of Entomology has been assigned to the task of finding out whether there is any mysterious quality associated with it or whether royal jelly is merely a convenient form in which the bee can provide for her developing young.

R. M. Melampy, of the Bee Culture Laboratory at the Southern States Field Station, Baton Rouge, Louisiana, has been investigating this subject for the past three years. Melampy is a highly trained man with an education in medicine, physiology, and chemistry necessary to a proper interpretation of his technical subject.

In the interview which preceded this attempt to tell the story of the work which Dr. Melampy is doing, this writer was reminded of Dr. C. C. Miller, a most popular leader of a former day, who was famous for the frequency with which he answered troublesome questions with "I don't know." The frankness with which he admitted his lack of knowledge increased the confidence of Dr. Miller's followers. In the same way, Dr. Melampy assured this writer again and again that he would not care to venture an opinion concerning some obscure influence of royal jelly in the diet of the young bee. There can be little doubt that Dr. Melampy has gone further in the study of royal jelly than any other man, and he probably knows far more about it and about its influence in the hive than anyone else. The fact that he is unwilling to draw conclusions until all the proof is at hand greatly strengthens his position.

R. M. Melampy

Such an investigation as this requires an abundance of raw material, and royal jelly is not commonly available in large quantities. In order to secure it, it became necessary to graft queen cells in large numbers, to be cared for by broodless bees, in the manner usually followed by queen breeders. After the third day, the larvae were discarded and the royal jelly removed from the cells and stored at freezing temperatures.

The next step was to make chemical analysis of the composition of royal jelly to determine what it contains. A careful check of the proportions of moisture, dry matter, protein, fat, carbohydrate, and mineral revealed these essential food elements to be present in about the proportions that one might expect in a properly balanced ration. When royal jelly, which is the product of specialized glands in an insect, is compared to milk which is produced in similar manner by glands of higher animals, they are found to have much in common. The royal jelly disclosed a smaller moisture content but a higher percentage of protein (the muscle building substance) and of carbohydrate, (the energy producing substance). Popular speculation has assumed that royal jelly, because of its remarkable influence upon the development of the young larvae of the bee, must be extremely high in vitamin content. It is common to ascribe qualities known to one form of life to an entirely different one, without good reason. Insects are far removed from higher animals, and therefore, there is no reason to believe that things necessary to mammals might be of use to them.

There has long been much curiosity about what peculiar quality in royal jelly might account for the fact that the queen fed on it has "short tongue, notched mandibles, small brain, long sting, highly developed functional ovaries and long life span, while the worker which is deprived of it has long tongue, specialized mandibles, large brain, short sting, undeveloped ovaries and short life span." Therefore, popular opinion is unprepared for the fact that while Dr. Melampy found between one and one and a half units of vitamin B per gram of royal jelly, but little if any of vitamins A, C, or E could be found. Of particular interest is the apparent absence of vitamin E, the one commonly associated with reproduction.

Having learned something of the composition of royal jelly, the scientist was next concerned to see its effects on the development of the young larvae. Thus began what is

Top: Two milk bottles, one of which contains milk and the other royal jelly. If it were not for the labels, one could not tell them apart as far as color is concerned. Significant is the fact that Dr. Melampy is able to get royal jelly in quantities, and his work does not have to wait on it at any season.

A small quantity of royal jelly which has been dried. In the original photograph its resemblance to powdered milk is very pronounced.

perhaps the most complete study of physiological development of an insect, from the laying of the egg until it reached maturity, that has ever been undertaken. Hour to hour growth of the queen in comparison to the worker has been observed with great care and all facts recorded. Charts have been drawn to show the differences in development of nitrogenous constituents at different periods, how fats and carbohydrates are accumulated during the larval period and their consumption during the period of transformation. Likewise the consumption of oxygen and the giving off of carbon dioxide, and numerous other scientific facts which are difficult for the untrained observer to appreciate.

As one talks to Dr. Melampy, he answers readily enough when we ask what takes place at different stages; but when we ask why, he has no answer. He can tell you the chemical composition of the royal jelly; and he can tell you in what way the growing queen larvae differs from the worker larvae at a certain age because of it; but when we want to know why this difference, he will not even speculate.

The worker is known to be a worker instead of a queen because the nurses deprived her of the royal jelly at a certain stage of her existence, but why she has the pollen baskets and other appendages necessary to the gathering of nectar and pollen, the secretion of wax and the building of combs is as yet unknown.

As far as has yet been determined, there is no quality in royal jelly which will make it of special value to babies or other animals more than other foods of similar composition. Rats fed upon it thrive in a satisfactory manner, but probably do no better than on another properly balanced ration.

As far as Dr. Melampy seems willing to go as yet is to say that royal jelly is an ideal food for the development of a queen bee.

Hamilton, Illinois.

# CLAY RE-ELECTED

According to "Neighborhood News," published by the Rhode Island Avenue Citizen's Association (Washington, D. C.), Harold J. Clay, author of the semi-monthly honey newsletter of the Department of Agriculture, has been re-elected president of that organization in recognition of an initial adminstration of great efficiency.

Beekeepers can substantiate this note of praise in Mr. Clay's behalf. No other source of periodical information in the beekeeping industry is more important to beekeepers than the semi-monthly newsletter of the Department of Agriculture. The fine thing about this publication is that it is free to beekeepers on request, and gives full information about markets, prices, and available honey in the United States; also frequent statistics on importations and exportations of honey, beeswax and other matters of general interest to beekeepers.

# RENDERING BEESWAX

By E. L. SECHRIST

### Wax Molds

Honey or gasoline cans, with one end cut out, are often used as molds and serve very well if a strong cord is tied around the can and inch square strips of wood are wedged tightly between the cord and the tin on each side. When the wedges are removed the tin springs out and makes it possible to remove the wax more readily. However, if large quantities of wax are being handled, it is desirable to have several large, conical molds of tinned copper or, better, of nickel, aluminum or stainless steel.

The advantages of conical molds are that the wax is easily removed and that any dirt left in the wax settles to the small conical end of the wax cake. These molds should be provided with strong, riveted, handles and a cement or other solid base into which they may be set while cooling. If the wax should stick and not come out easily, the whole mold can be reversed on the floor, another conical mold set over the one containing the wax, steam turned into the space between the two, when the wax will quickly loosen and drop free of the mold.

Whatever kind of mold is used, it is well, for ease in handling the heavy cake, to provide a long eyebolt, with large washer and nut on one end. This is suspended in the melted wax in the mold, reaching into the water in the bottom of it. Next morning, a rope and pulley lifts the wax out of the mold, and the nut is screwed off.

### The Hot Box

A few beekeepers have used with satisfaction what they term a Hot Box. This is a double walled, insulated box 6 ft. long by 3 ft. wide and 3 ft. high. It sets on the floor of the extracting room in a galvanized iron pan with a drain to carry off excess moisture, and has an insulated, beveled door the full size of the opening in one end, closed with refrigerator clamps. It has a grid of steam pipes on each vertical side, with return, and valve to regulate the admission of steam to the pipes. There is also a steam vent inside, with valve, because not even cappings can be melted satisfactorily without some moisture. Combs require more. For use in this hot box provide three capping boxes set on small wheels. These tanks should be about 5 feet long by 20 inches wide and 16 inches deep.

When in use, a box is filled with cappings and rolled into the hot box. Steam is applied gradually so that the warmed honey will drain out before melting of the cappings begins. Each capping box will have a sloping bottom and a projecting tube which, when it is rolled into the hot box, will fit into a larger tube projecting through the wall of the box so the draining honey may run into the sump of the honey extractor. After draining sufficiently, the outlet is changed to the wax vat, and more steam turned in. Most of the slumgum will remain on the screened or slatted false bottom of the capping box and can be removed while still hot.

**Combs in frames have been melted in the Hot Box or some variation of it, but this is not advisable because of the discoloration and contamination of wax by the propolis on the frames. Combs should be cut out of frames before being melted in either a hot box or a melting vat, and the scrapings melted separately.**

Three capping boxes are used; one filling, one draining, and one in the hot box. The filled box is left in the warm box to drain over night, then melted in the morning. Where steam is available, this is a good method.

### Wax Rendering for the Small Beekeeper

It is well, even for the small beekeeper, to construct some sort of a steam boiler outfit. An inexpensive one may be made from an old 50 gallon oil drum used for the furnace shell with a smaller strong steel drum within it on supports. Gauge and blow off should be provided. At a little greater expense a satisfactory outfit may be made by using, in connection with a laundry stove having a dome or hot water heater, an ordinary hot water tank used as a steam dome for the boiler, with a water gauge. Steam pipes are taken from the top of the tank. Thus a supply of hot water and a moderate amount of steam can be had at will.

Wax can be rendered, however, with very primitive equipment and good yellow wax produced. I have seen, in Africa and Haiti, comb boiled in an iron kettle and the mass strained into a gourd or calabash, through a fiber bag twisted by two sticks. Some wax is lost, but the equipment cost nothing because the pot and the calabash are what the native uses in cooking and eating his food. Consequently the pot is clean and polished. Also, the wax is cooked a minimum amount of time because the pot is over an open fire and is watched continually, both to keep the fire going and to keep the wax from boiling over.

**In a clean pot, with the wax skimmed off or poured out and strained as soon as melted, the damage caused by the iron is minimized. The wax also contains a minimum of propolis as it has in it no scrapings from frames and supers but is merely comb, and usually new comb, cut out of the log or bark hives. Thus, although the pot is one of cast iron, conditions are such as to lessen the injury to the wax. If an enamel ware kettle is used, the injury will be even less.**

### Rendering Wax with a Solar Extractor

A solar wax extractor has its uses in any apiary and can result in saving much wax that would otherwise be lost. A 5-gallon can with a tight wooden cover should be carried with the truck or car and all bits of comb of any kind dropped into it. Carefully covered, it is safe from searching bees. A similar can should be kept at each apiary, to be emptied into the can on the truck.

The solar extractor, located at the home apiary or central plant, should be similarly protected from intruding bees.

One of the best I have seen has a V shaped tin box or pan about 8 inches or 10 inches deep at its deepest part, and covered with a glass about 2x4 feet in size, or larger. Aluminum or nickel sheet would be better. Such a pan will hold considerable wax. In this pan is set a tray of tinned hardware cloth of about ¼ inch mesh, set about 3 inches or 4 inches below the glass. This tray is covered with cheesecloth and on it the cappings and scrap wax is placed to a depth of not more than 2 inches. As the wax melts it drips down through the cheesecloth into the V shaped pan, the slumgum remaining on the cloth. After the wax has all been melted the cheesecloth can be removed while the wax is hot. It makes good kindling for fires.

This is a simple melter but can be improved by setting the pan at a slope of about one inch to the foot so that the wax will run off it quickly

into an aluminum pan placed at its lower end, and all of this, of course, enclosed in a bee tight box with a glass cover. If the pan into which the wax runs is covered with a thickness or two of burlap the wax will be further clarified, and the risk of discoloration will be lessened. The wax in the pan should be removed when cold and not reheated in the melter.

**This type of solar melter is much better than the ordinary one in which the scrap wax is placed directly on a flat pan because the wax is separated quickly from the slumgum which often discolors melter wax badly if retained with it a long time, and because the slumgum does not come in contact with the pan.**

### Increasing the Production of Wax

Not alone by saving, as has been suggested, the odd bits of wax that would be otherwise wasted, but in several other ways can the beekeeper's production of wax be increased and considerable good wax produced at almost no cost.

In every apiary there are some colonies that are not in Standard Honey-producing Condition, but yet will gather and store some honey. These can often be used to produce wax by taking some combs out of the brood chamber and placing them in an upper story, replacing the combs taken out with frames from which the comb has been cut or with frames containing mere starters of foundation. Sometimes these empty frames and the combs can be alternated to advantage.

Depending on colony and seasonal conditions, these frames should be filled with usable worker comb or with drone comb. It is usually well, also, to have on most colonies a few empty frames in the supers. All new combs which are not fit to use as brood comb may then have the honey extracted, the comb cut out and rendered into wax. If some of these combs contain brood, they should be placed above a queen excluder until later.

Instead of this procedure, such colonies may be provided with a special inner cover, made from the ordinary inner cover or a similar board, cleated on both sides with ⅞ inch square cleats. This cover has an inch hole in it, or the usual bee-escape hole may be used if it does not prove too large. Such a cover, placed over a colony in the right condition, will result in a mass of burr combs between the cover and the top bars of the frames. At the next visit, this inner cover is pried loose and turned over. All burr combs are scraped from the top bars and placed on the cover with the burr combs already there. This is placed back on the hive and the outer cover put on. The bees will carry down all the honey from the mass on top of the cover and will build more burr combs in the space below. Then the process may be repeated. With some attention, considerable wax can be secured in this way.

### In Conclusion

Although no thoroughly satisfactory system of wax rendering has yet been developed, close attention to the basic factors involved in the production of beeswax will considerably lessen its cost as well as result in wax of better quality.

As has been stated, some of these factors are:—1. Getting more wax by saving scraps that are often wasted. 2. Getting more wax by giving the bees space to make use of the wax they secrete in the ordinary course of honey production. 3. Keeping propolis scrapings out of the wax vat. 4. Using melting vats and other equipment which will not stain the wax. 5. Using large quantities of soft hot water to melt all the wax quickly and to dilute the acids and the pollen colors present. 6. Separating wax from slumgum as quickly as possible. 7. Letting the wax cool slowly in suitable molds from which it can be removed easily and sold without remelting.

Following these suggestions will reduce to a minimum the many vexatious problems involved in getting and rendering beeswax and will result in more profit to the beekeeper. **And don't let your wax kettle boil over.**

This is the second of two articles on rendering beeswax by E. L. Sechrist. The first article appeared in the March issue.

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# MATCH BOX INTRODUCTION

THE question of whether queens should be caged or loose in packages attracts considerable attention. Perhaps experience here in England may be of interest. I think the consensus of opinion in the Journal is that packages with loose queens, properly introduced, have the least number of supersedures.

The package shippers' main difficulty, seems to be correct and satisfactory introduction. In England practically no packages are sold. Three and four comb nuclei are the nearest thing. As a producer of queens and nuclei, perhaps the method I use may be of interest, as it may be used with equal success with packages.

The last batches of queens in fall are used to requeen the colonies from which I intend to draw my nuclei in the spring. When the first lots of queens are mated in the spring, nuclei are made, and this is where the method of using the queens may be useful to the package trade.

The first nuclei, of three or four combs, made from the colonies with queens introduced the previous fall, are prepared about the middle of the day with the reigning queen present and are at once dispatched. About half an hour before dark on the same day, queens are taken from the mating nuclei of the current spring, placed alone in empty match boxes, are kept in a warm place for half an hour. Then, they are quietly placed on the tops of the combs of the hives from which the nuclei that have been shipped were made. The match boxes are partly pushed open, making sure that they have the open side down, and the hives are quickly closed.

This method, originated by Samuel Simmins, in England, forty years ago, will invariably be found successful. It is based on the fact that it is not the attitude of the bees to the queen which causes failure, but the attitude of the queen herself. She, being a laying queen, is a heavy feeder, and by the time the half hour of isolation is over, she is hungry. On reaching the combs, her hunger overcomes her fear, and she at once dips into the nearest cell of honey. The bees crowd about her, stroke her and all is well. It is doubtful if the bees know that their queen has been changed.

Under the usual methods of introduction, the queen finds herself in a strange place among strange bees, and if fright causes her to run about, she is sure to be balled.

As I see it, by this method, in making either nuclei or packages, or requeening colonies, the bees are not deprived of their laying queen for any appreciable time, and as soon as enough bees have emerged from the colonies, the process may be repeated, as often as needed.

I have tried the method with artificial swarms (which are the same as packages) and it has been successful. I used a spring balance in making the swarm, shaking the required weight of bees, after finding the queen, and then dropping her among her own bees.

In using the match box method, it is advisable not to disturb the colonies for three days after introduction.

Gilbert Barrat,
England.

# MAKING A PROFIT OUT OF PACKAGES

By G. H. CALE

ONE of the most frequently asked questions here is, "Can I return my investment in packages of bees from the honey secured the first season?" Surprising as it may seem, this actual accomplishment is often possible. Yet there are few industries in which capital may be invested and received back in a single season of operation. Since beekeeping frequently makes such returns, probably no one would deny that it is a highly favored occupation.

Many people, however, stop short of success with package bees because they do not understand a few simple things necessary to make the management of them profitable in honey production.

We have had much to say in these pages lately about the desirability of having the bees which we use produced by queens with a high record of prolificness. Satisfactory honey production naturally follows this qualification. In a list of fundamentals for packages, prolificness would have first place.

It is not always immediately possible to choose the best bees unless one has a wide acquaintance among breeders and, by trial and error, has made up his own list of those from whom he prefers to buy because of the results he gets. This might be construed to mean that there are only a few breeders capable of supplying the sort of bees the honey producer can use. This is far from the truth. Just as with farm crops, bees vary in their behavior under different environmental conditions. Bees that are useful and highly efficient producers in one location may not be of equal value in another where the circumstances are different.

Having secured satisfactory stock, packages should, of course, be received as early as possible in the period previous to the honeyflow, and yet avoid weather so cold that chilling of the queen may result. In the vicinity of Hamilton, we like to receive packages about the 15th of April. The honeyflow begins about the 10th of June. This gives a period of approximately eight weeks from the time the packages are hived until the first nectar from the major flow is available, a period which is considered satisfactory to build a good strong colony from prolific stock in most locations.

After he has accepted the order, a good shipper seldom fails to send bees so they will arrive at the time specified. If, for any reason, weather prevents shipment, notification will be received and changes may be made in schedule.

Once the bees arrive, get them into the hive as soon as possible. However, if they come on a cold day, they may be stored one or two days in a cool dark place, before hiving.

Hives should be prepared where the bees are to remain, at least until time for the honeyflow. It is a good plan to keep packages where they may be cared for without great expense and to move them later, if necessary, to the honeyflow.

Many suggestions have already been given in articles this spring on how to hive package bees. There are a few things we think important. Packages should be sprinkled before hiving so they will not fly at once. It makes little difference whether one uses syrup or warm water. When the bees are thoroughly sprinkled, they are shaken down in their cage, feeder can and queen cage removed, and the bees poured into the hive in whatever fashion desired. The queen, if possible, is released among the bees at once. Then the hive is closed and the entrance reduced. If this work is done in late afternoon, the remaining entrance may be lightly closed with green grass and the bees will stay in their hive on their combs until the following day. Then they will gradually let themselves out and fly without much disturbance. If packages are hived in such a manner that they fly at once or soon after hiving, the bees get into the air in great numbers. Drifting becomes very bad. Some hives will receive all of the bees and some will be practically empty.

When packages are hived on combs of honey and pollen, they do best. There is no denying that. Should this not be possible, part combs and part foundation are the second choice. All foundation is sometimes necessary, but is the least satisfactory. Packages of bees fed with thin sugar syrup during the first week or ten days, even when nectar is available or honey is in the combs, seem to go forward more rapidly than those not so fed. Feeding may soon be stopped if a nectar flow continues. If queens are released when hiving, as just suggested, with combs of honey, pollen and with feed, eggs will be layed almost immediately and the build up of the package will be underway at once.

If the stock is right and food requirements have been satisfactorily provided, the packages will surprise one with the rapidity with which the brood area develops. There comes a time, however, in the progress of the package, when the brood has reached a high point, and the number of adult bees, those bees which came originally with the package, will have reached a low point. This is critical. Supersedure often starts then. Why the bees do it, no one exactly knows. Sometimes it seems traceable to original poor stock, sometimes to weather conditions, sometimes it occurs with no apparent reason.

However, we have found that supersedure at this point can be largely overcome if we take combs of emerging brood and bees from healthy colonies and put one comb in each package. This usually is done within the first two or three weeks of the initial growth of the package. Packages so treated seem to leap forward with surprising increase in strength and in favorable seasons, not only will they return the cost of investment, but they will, not infrequently, also earn back in honey sold enough to pay for the hive, supers, foundation, and frames in addition to the bees. So, surprising as it may seem, this most useful equipment for the honey producer, package bees, when properly handled, are a profitable and wise investment.

So many beekeepers realize this fact that they have sadly neglected the old time careful management and have come to depend on the package breeder for everything in the way of bees and for success in honey production.

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Hamilton, Illinois.

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## EXCUSE US

In the article in February, page 67, about A. K. Whidden in southern California, we reported the ownership of 15,000 colonies. Mr. Woodman, who gave us the information, is not responsible for this mistake, but he does call our attention to it, and says, "I hope Mr. Whidden doesn't see this. He is a conservative and modest man. The number of colonies should be 1,500 and not 15,000."

Your pardon, Mr. Whidden. Just a typographical error, but maybe after all you did enjoy a few moments of exhilaration.

# INTENSIVE OR EXTENSIVE BEEKEEPING?

By WHITMAN COFFEY

IN present day honey production there are two methods of operation. The owner will, by intensive effort, try to produce the highest possible per colony yield of honey by operating bees as individual colony units; or he will operate on a large scale, losing sight of the individual colony, and try to secure the largest possible gross of honey, with efficient management to make the venture profitable. In other words, we have mass production and intensive production.

When large scale production of anything is attempted, the problems multiply. When the small honey producer passes into the large scale bracket, operating thousands instead of hundreds of colonies of bees, he automatically creates new problems relating to markets, labor, finance, maintenance, and a dependable supply of producing stock. Because of these additional factors, many men who succeed as small producers fail as large ones because they have not the ability or the experience in some comparable field so that they are not familiar with the things they have to face.

The change of the viewpoint of the customer when he changes his method of operation affects the southern shipper of bees and queens. A small honey producer will probably demand excellent individual queens at a fair price, but if he enters the field of large scale production, he may require queens in large lots at a low price; and if he is a gambler venturing all on a throw of the dice, he may not ask many questions concerning the quality of the stock he gets.

Whitman Coffey

Two of the author's apiaries in southwestern Texas

Before large scale methods of honey production could start in this country, honey was not as plentiful as it is today and commanded a higher price. Now, when the large producer begins to put his carloads on the market, we have a marketing problem which is not necessarily a problem in overproduction. However, since the producer must sell, one of his problems becomes a problem in finance. His bank, or whoever is backing him, must have their money. The bottler or processor says he cannot pay much for honey because of a sluggish market or because of low price competition. Honey producers who also bottle and process honey are blamed for the cut-throat competition.

So the producer not equipped to process and distribute honey must sell at a sacrifice, and if the season is poor and his crop is small, he finds himself operating at a loss or facing bankruptcy. He, in turn, criticizes the small producer for selling honey cheaply, and the small producer replies that he is getting more money for his honey than someone else who

is offering honey in large lots at a still lower price.

Not only is this a case of maladjustment of production and distribution, but it is also a case of insufficient cooperation. Efficient cooperation would bring increased income to the beekeeper whether he sells to the bottler or whether he sells to stores.

To remedy this painful situation, several moves have been made, (1) educational, (2) financial assistance, (3) securing of export markets.

In the field of education we have not only to educate the producer but also the consumer. The American Honey Institute, assisted by other agencies, is making excellent headway in educating the consumer. We certainly need, however, more research in the use and nature of honey if we are to make maximum progress in this field.

There is much to be done yet in educating the producer. Partly as a result of low prices, much unripe or poorly prepared honey is put on the market. If this continues, it will contribute its share to low prices. There is no arguing that honey derives its merit from its flavor and from the fact that it contains valuable and easily digested sugars not found in other foods. In order to preserve its flavor and chemical composition, honey must be fully ripe and carefully handled, and stored properly if it is to command the price it deserves. Instances of unripe honey offered for sale are very frequent. A few days ago a buyer told me of a case where a beekeeper put granulated honey in an open vat, added water, and heated it all to the boiling point.

A coordinated program designed to assist the beekeeper and his industry would have to consider principally educational work and financial assistance to the producer. To accomplish this, we could (1) give the Honey Institute better backing, (2) give small producers more cooperation and information in regard to handling and marketing (3) advise and assist beekeepers in the best methods of financing and managing honey production and marketing from a business standpoint. Mr. Bohne and Mr. Davis in Louisiana are doing valuable work along this line.

The problems of the honey producer are just as real, remember, to the producer of package bees as they are to the honey producer himself. Here in the South we are not only ready to help in the improvement of bees from the standpoint of honey production, but also to help the producer establish a fair price market.

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Whitsett, Texas.

Apiary of the Department of Agriculture, Kentville, Nova Scotia.

# A MULTI-QUEENED COLONY OF BEES

By A. KELSALL.

IT is the general belief that a colony of bees will tolerate but one queen in the hive. The only exception to this is at the time of supersedure when it is not uncommon to find a young virgin queen and an old unprolific queen in the same hive. This condition of affairs is only temporary, for soon after the young queen starts laying, the old queen is destroyed. However, in a colony under observation at the Experimental Station, Kentville, N. S., the old queen, states E. D. Craig, head beekeeper, was also retained.

In the early fall of 1938 this colony superseded their queen and in course of time had a young fertilized laying queen, but contrary to general practice did not destroy the old queen, having apparently decided she should remain with them during the winter months at least.

On May 12, 1939, the colony was examined and both queens were found present and laying on the same comb and on the same side of it. Two weeks later the colony was opened in the presence of Mr. C. B. Gooderham, the Dominion Apiarist, at which time both queens were found and carefully watched until each deposited eggs in a number of cells.

Throughout the summer the colony was examined periodically. On August 24 it was being shown to a beekeeper, and three queens were found present, also the queen cell from which the third queen had emerged. This queen was inclined to be more nervous than the other two, but only a few moments passed before she started to lay, even though the comb she was on was exposed to the light.

There were very few drones throughout the summer in the ten-frame Jumbo hive this colony is in, which is a fair indication that the queens had been fertilzed. The ten combs in this hive, which are two inches deeper than the standard combs, have been filled with brood throughout the summer, with the exception of the two outside combs, which contained a quantity of honey, pollen and brood.

Unfortunately, this colony suffered heavy losses in brood and bees from poisoning by arsenical sprays applied to the fruit trees during the latter part of May and early June. However, they regained their strength by the time the clover flow was on and stored more honey than the majority of the colonies that had been removed out of the orchard area during the spraying period and had not been poisoned.

When this colony was prepared for winter all three queens were present and the life of the hive proceeding in a normal way.

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Department of Agriculture, Nova Scotia.

# TWO RECIPES FROM MILDRED FRANCIS

MILDRED FRANCIS, of West Allis, Wisconsin sends these two recipes which we have tested to our satisfaction. They are both fine. Try them yourself and tell your friends. If you have similar recipes, let us hear from you.

Both the honey pineapple rolls and the pie only last a few minutes if a crowd is around. Mrs. Francis has a honey shop in West Allis, Wisconsin, and is very active in her interest in all kinds of food products.

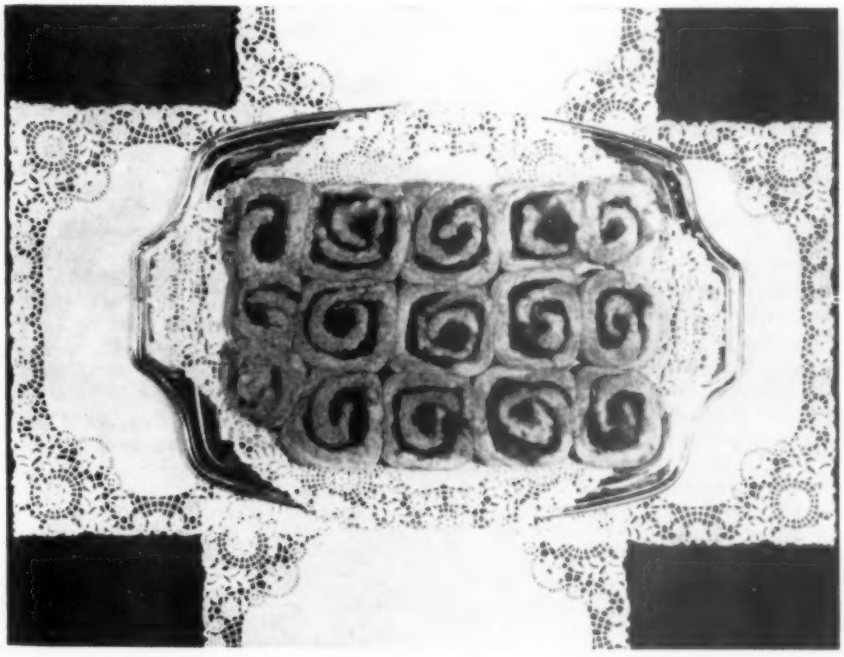
**Honey Cinnamon Pineapple Roll**

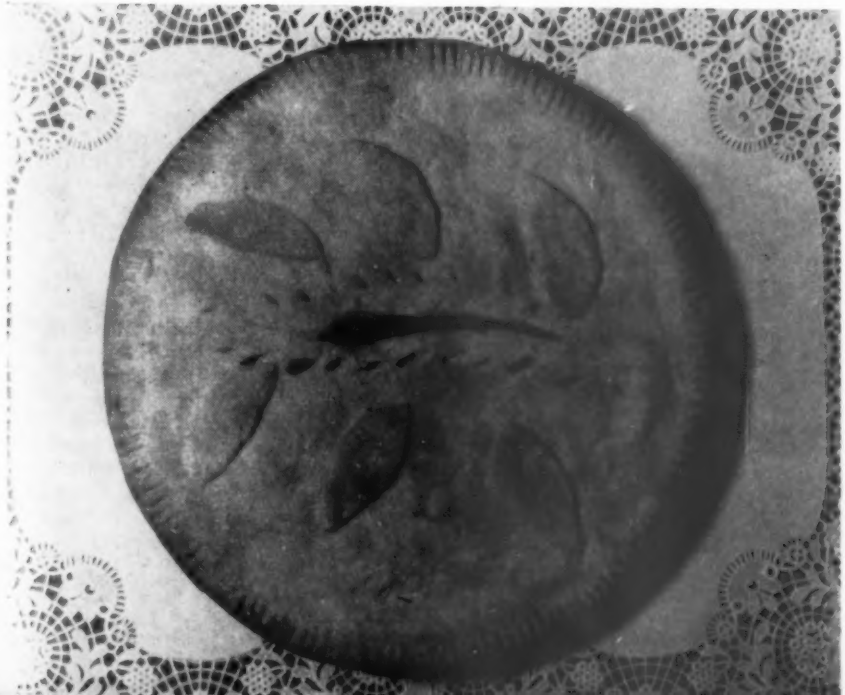
1 medium sized can grated pineapple
1 teaspoon cinnamon
¼ cup honey
2 cups all purpose flour
4 teaspoons baking powder
1 teaspoon honey
½ teaspoon salt
6 tablespoons shortening
2/3 cup milk

First make a biscuit crust as follows:

Sift together the flour, baking powder, the salt. Then, with two knives chop in the shortening. When the mixture looks very flaky, gradually stir in the milk and the teaspoon of honey. Transfer to a board dusted with flour and roll into an oblong shape a fourth of an inch thick. Dot the dough with a tablespoon of butter.

Drain the juice from the pineapple and spread the pineapple on the biscuit crust. Sprinkle with the cinnamon and drizzle ¼ of the cup of honey over it. Then roll as in making a jelly roll. Slice crosswise in half inch pieces. Place on a well oiled pan with pieces not quite touching. Drizzle the remainder of the honey into the crevices and place in an oven 350 to 375 degrees F. for about 20 minutes or until the rolls are puffy and brown. Serve warm . Recipe makes one dozen rolls.





**Honey Apple Pie**

Crust:

2 cups sifted flour
1 teaspoon salt
2/3 cup solid shortening (vegetable)
Cold water (about 1/3 cup)

Method:

Sift salt and flour into a bowl, add the shortening, working it with a pastry mixer or two knives. Cut it in just enough so that it looks like very coarse meal. Add cold water, about a tablespoon at a time. Be careful not to add too much, the dough should not be sticky. Roll out a scant more than half of the dough for the bottom of a ten-inch pie plate, handling as lightly as possible.

Filling:

5 medium sized tart cooking apples
2 tablespoons light brown sugar
½ cup light honey
3 tablespoons butter
1 teaspoon cinnamon

Method:

Peel and core apples and cut to thin wedges. Arrange on bottom crust. Sprinkle with brown sugar and then drizzle the honey on the apples. (Be sure to distribute the honey evenly, because if poured on in one spot it will become soggy when baked.) Dot with small bits of butter and sprinkle with cinnamon. Cover with lightly rolled top crust and decorate as you wish.
Bake:

Electric roaster—450 degrees for 35 minutes to 50 minutes depending on condition of apples.

Electric oven—450 degrees for 15 minutes. Reduce to 350 degrees and finish baking. (45 to 60 minutes depending on condition of apples.)

# THIS AND THAT • • FROM HERE AND THERE

## FIFTIETH ANNIVERSARY FOR KILDOWS

The American Bee Journal office is just in receipt of a clipping from the Sarasota daily paper, giving us the news of the celebration of the fiftieth anniversay of Mr. and Mrs. A. L. Kildow who have been going to Sarasota for at least the last dozen years. Our readers will all remember Kildow as the chief inspector for bees in Illinois for many years, until he retired in 1936.

The report shows how esteemed these dear folks are at their winter home in Florida. There were some 150 guests seated at the table as the Kildows were escorted to their appointed place.

To show that the population down there is cosmopolitan, the committee in charge of the celebration of the Kildow anniversay was composed of women from Ohio, Indiana and Massachusetts. Our staff, as well as a host of our readers, congratulate the Kildows. They will not be returning to Illinois until the middle of April.

♦

## POLLEN RESERVES IN WINTER

We know now that pollen stored in combs in winter is essential in the winter food requirements of a colony of bees. Given a pollen reserve of three or four combs available to the bees when they need it for brood and an abundance of honey of good quality, a cluster of young bees and a young queen, severe temperature alone is not sufficient to kill the cluster in winter. In other words, the emphasis on packing has been overdone.

However, that bees are unable to rear brood in winter without pollen is probably not entirely true either. According to work done by Ruth Latmar, in Switzerland, bees in autumn accumulate protein reserves in their fatty tissues by eating pollen. These reserves are somewhat depleted in winter for the needs of the bees themselves, but the greater part of it is consumed in raising the first brood in spring. So the source of protein material for early brood rearing not only comes from pollen stored in the combs, but also from pollen in the fatty tissues of the bees themselves.

♦

## SUGGESTIONS ABOUT THE CARE OF PACKAGE BEES AND QUEENS

There are many causes for supersedure, but we believe one of our Government experimental stations recently discovered the cause of at least 70 per cent of it. When a queen is subjected to a temperature as low as 40 degrees many are superseded and at a temperature of 25 degrees or lower all are superseded. The producer and shipper of queens cannot control this part of the operation. Only the purchaser can; and if he is careful to install his queens so as to keep them warm and in normal condition supersedure will be reduced to a minimum.

As soon as your bees are received, if they seem too warm, spray them with a small amount of water and put them in a cool place. If they are chilled, put them in a warm place until normal. Then spray or feed them, with a small brush, all the warm sugar syrup they will take, half sugar, half warm water.

They should be installed as early as possible after they are fed, and on about four frames. They should be well protected from cold weather. And here is where the buyer comes in if he is to succeed. Take the queen cage from the package, remove obstructions from candy, place her between two frames or on top, near the back of the hive; then, while the bees are full of the warm syrup, they should be shaken out of the shipping cage, through the feed can hole, on top of the queen cage and the balance into the empty part of the hive so they will at once cluster around the queen cage. Do not disturb for ten days.

A feeder should be placed in the vacant part of the hive at the time of installation. We prefer a slow feeder. Ten-pound pails with two or three small holes the size of No. 30 wire are best. The feeder should be kept on the bees until the main flow starts. If an abundance of pollen is not coming in, combs with pollen should be added. This makes normal conditions. Just add additional room as needed, and watch the development of the colony.

If the bees are received at the proper time and you follow these instructions, you should have at least three ten-frame bodies full of bees with at least twenty combs of brood when the flow starts. With this kind of a colony you won't worry except for extra supers to give them room.

T. W. Burleson,
Waxahachie, Texas.

♦

## BEAR STORY

In the January 6 issue of Collier's, "Bear Trap," by Robert P. Lewis, a short story in two columns, features a right exciting tale of bears and honey in which a beekeeper, Luke Braider, in the Blue Smokies, fools a couple of hijackers with a bear trap set for a honey raider. It takes considerable skill to cook up a plot which maintains suspense and does a complete job of short story telling on a single page. And it is quite unusual to have such a story based on the activities of a beekeeper.

♦

## SUGAR CONCENTRATION IN NECTAR

In "Chemical Abstracts," C. H. Richardson gives a summary of the work done by Geo. H. Vansell in California, and reported in the Journal of Economic Entomology, on the sugar concentrations of western nectars. Nectars taken from flowers or from the honey sacs of bees were examined for sugar content. Eight varieties of plums showed variations of nectar from a trace to 28.4 per cent sugar; nectar from six varieties of vetch, from 22.6 to 56.5 per cent. Red filaree, black locust and several species of willows gave the highest value, 60 to 65 per cent, while several varieties of apricot, and madrone gave the lowest, 10 to 12 per cent. The average sugar concentrations in nectars from 76 plants in the western part of the United

States are tabulated in this report.

There is no question that some plants are heavier in nectar concentration than others. Even in the same variety of a plant like sweet clover, there are undoubtedly individuals in any group that are high in nectar concentration and others in the same group that are low. If we could secure a seed selection from those with high nectar content, we would undoubtedly improve the situation in honey production.

♦

## OUR METHOD OF REQUEENING

The past summer we raised our own queens and requeened thirty-six colonies. Here is our method:

All our colonies are kept in hives of two stories the entire year with supers added when they are needed. In requeening, we kill the old queen in late afternoon, reducing the colony to a single story.

The bees are shaken from three combs in the bodies removed. From these combs we brush the bees with a bee brush or a whisk broom dipped in a solution of one-half ounce of peppermint to one gallon of tepid water. We also sprinkle both sides of each comb, the bees on the hive and on the bottom board. Working in this way, we replace all the combs in the first story, placing ten frames in a Langstroth hive and eleven in a Dadant.

Then we put an empty hive body over this and in this hive body we put a nucleus, a laying queen, eggs, brood and bees, sprinkling each frame as suggested, making the nucleus usually of four combs. Fill the remainder of the hive with combs without bees from the original second story of the old hive. Then we cover the hive and consider the job done.

However, for the bees, it has just begun. The odor of the combined colonies is temporarily changed and the bees continue fanning until everything is normal. On the next visit, we find the bees and their new queen going about their duty as though no change had taken place. In this way we never cage a queen and we have never lost one.

We use essence of peppermint in uniting two or more weak colonies to make a strong one, retaining if possible the youngest queen; joining a weak colony to a strong one; joining a queenless colony to a queenright one (removing queen cells a week later); or for introducing a new queen.

A few precautions—be sure the queen is in the topmost story, not in the bottom one. Use the solution generously. Do the work late in the day.

Emma Hanus,
Cleveland, Ohio.

♦

## PLANTING FOR NECTAR

When beekeepers plant trees or shrubs, they might as well plant for nectar and pollen, not only for their own benefit, but for the benefit of the next generation. As a nurseryman for forty-three years and a beekeeper for twenty-seven, I have had plenty of chance to make observations on nectar producing varieties of trees and shrubs and to establish a rotation which is of value in nectar and pollen production. For shade in the bee yard, the American Basswood, with its large clean leaves, supplies an abundance not only of shade but blossoms, and the low hum of busy bees in a heavily blooming basswood tree is always a joy to the beekeeper. The sappy roots make it an easy tree to transfer, and after a few years your bees have another supply of available nectar.

You may want wind protection or background for your lawn or property to screen unsightly buildings or scenery, or to separate the lawn from the drive or the service yard, or to establish a formal hedge, or informal planting of shrubs in groups. Your may wish to divert the flight of your bees from your apiary over a road. For such purposes, Pink Tartarian Honeysuckle (Lonecera tartarica rubra); the Marrowii Honeysuckle (Lonecera marrowii); the Siberian Pea Tree, (Caragana arborescenc) may be used. For lower shrubs the Cotonaester Acutifolio (Quincy berry), Japanese Barberry (Barberris thungbergii) or Potentilla fruitosca (Cinquefoil) are useful.

The Pink Tartarian Honeysuckle deserves its last name as bees cover its bloom as though a swarm were near. This shrub grows mostly in early spring before trees start much growth, so it does well under trees. It becomes a large bush nine to ten feet high with a light gray bark covered in late May with blossoms of pinkish apple shade.

The Marrowii Honeysuckle is more spreading, leaves and bark quite similar, but with a creamy yellowish blossom not as beautiful as the pink variety. Both are followed by red berries relished by our feathered friends.

The Siberian Pea Tree is a small shrub-like upright tree resembling the Mountain Ash in size, bark and somewhat in leaves. About three years after planting, it commences to bloom in late May with a sweet pea blossom greatly visited by bees. It has small pods of peas that burst open in warm fall days, and turn to a reddish brown, adding to the fall color. The fine leaves are paired along its leaf stems which when they unfold in the spring are downy gray, turning to a fresh light green of striking color.

For a five foot hedge, plant Japanese Barberry. Their blossoms are followed by red berries and the plant is not affected nor is the bloom lessened by trimming as with many other shrubs. The bees work the bloom heavily and it is a prolific producer of both flowers and berries.

The Cotonaester Acutifolia is another shrub useful both for a hedge and groupings. It is greatly visited by bees. The blue berries stay on until winter for our bird friends. The glossy deep green leaves turn red in fall. However, it requires two winter stratifications to make seeds sprout. Thus the cost of propagation is more.

For a two foot nectar producing shrub, plant Pottentilla Fruitosca (Cinquefoil), a yellow double flowering shrub with odd foliage which may be used as a facing or small border shrub. It is a long bloomer in late summer.

Of course, for the garden, plant fruit trees. On the lawn plant Betchell Double Flowering Crab, Dolga Crab, Hopa Crab, Mountain Ash. French Pussy Willows are a great pollen producer. You need pollen most in early spring and even our native pussy willow is valuable. Pollen may also be supplemented by planting large yellow Crocus bulbs in fall. Each bulb sends up in early spring six to ten flowers laden with early pollen which the bees carry for a surprising length of time.

So, in your program, plant nectar and pollen producing shrubs and trees adapted to your altitude and you and your bees will find them more valuable each year.

C. Edwin Swenson,
St. Peter, Minnesota.

♦

## HONEY FACIAL BATH

We note an item which recommends the use of honey as an excellent astringent and bleach for facial use. Honey is a prime ingredient in a new facial cleanser for oily skin prepared by Elizabeth Redden, hair specialist. It contains only a small percentage of oil to combat possible dryness. Substantial, easy-to-grasp bottles are used, with black plastic screw caps and gold labels.

# HANDY STORAGE FOR OUTAPIARIES

Here is a picture of our Bridge Road yard in Michigan all packed for winter. A pleasing picture in spite of the fact there were no supers.

Note the piano box storage. Very handy for miscellaneous equipment, smokers, etc. in outyards. A lock keeps things safe.

A. B. C. Woodman,
Michigan.

♦

# SMALL-SCALE PRODUCER

John Humphrey was for many years a crossroad country merchant, of Woodlawn, near Sabetha, Kansas. He interested himself in bees and became a comb honey producer after his retirement, shipping honey from Kansas to a dealer in Massachusetts, with whom he has enjoyed business for fifteen years.

His extracted honey is sold to retail grocery stores within a radius of 500 miles, in 5 and 10 pound pails, or in 60's for wholesale trade.

Mr. Humphrey is a typical illustration of the class of small-scale producers today as described by Mr. Coffey in an article in this issue. The above picture and the information about Mr. Humphrey were furnished by R. L. Steibler.

♦

# WORLD CONSUMPTION OF SUGAR

In the February 16 issue of "Foodstuffs Round the World," a weekly publication of food trade news prepared by the Foodstuffs Division of the Department of Commerce, are interesting data on the per capita consumption and the price of sugar in many countries. The largest consumption is in Australia with approximately 125 pounds per person per year. The lowest is in Netherlands Indies with a consumption of less than 25 pounds. The United States has per capita consumption somewhat in excess of 100 pounds, so do Canada and the United Kingdom; with Cuba, Switzerland, Argentine, the Union of South Africa, Finland, the Netherlands, and Germany in second place.

In price comparison this country is on the low side of the list of the world consuming countries close to 5 cents. Italy is the highest with over 15 cents per pound. The only countries with less per pound cost for refined sugar are Argentine, Switzerland, Chile, Cuba, Netherlands Indies, Brazil and Peru. All other countries are higher.

♦

# "BEEKEEPING FOR ALL"

E. P. Dutton & Co., of New York, have recently issued an American edition of a bee book which has been very popular in England. It is "Beekeeping for All" by Tickner Edwardes. Edwardes is a popular writer whose "Lore of the Honeybee" and "Bee Master of Warrilow" have been very widely read. "Beekeeping for All" is a manual of instruction for beginners following the English system. It is not likely to prove as popular in this country as his other books since honey production as practiced in America differs widely from English practice and much of the equipment recommended is unobtainable here. The book may be read with profit, however, by all who wish to understand the English system and to apply such portions as are useful to us. The price is $1.75 per copy.

# MEETINGS AND EVENTS

### Long Island Association, April 22

On April 22 and 23 Professor George H. Rea, of Cornell University, will put on unpacking demonstrations under the auspices of the Nassau County Farm Bureau with our association cooperating. On the evening of April 22, in conjunction with Professor Rea's visit, our association will hold its regular monthly meeting at the Home Bureau Center at Mineola, Long Island.

Ernest W. Graner,
Secretary-Treasurer.

♦

### Georgia Association

On February 23, A. J. Reamy, president of the Georgia Beekeepers Association, called a meeting at Quitman, in honor of Dr. E. F. Phillips. The meeting was informal and problems relating to the industry were discussed. Short talks were made by Morley Pettit, G. G. Puett, A. J. Reamy, J. G. Rossman, C. H. Herndon and Leslie Lewis.

C. H. Herndon,
Secretary.

♦

### Cuyahoga County (Ohio) Officers

A. C. Couch, Cleveland, was elected president of the Cayahoga County Association at the January meeting. C. Freund, Brooklyn Village, was elected vice-president. J. M. Miller, Maple Heights, and B. Seidel, Strongville, were re-elected secretary and treasurer respectively. President Couch succeeds Mr. Freund, who was president for many years.

J. M. Miller.

♦

### Allegheny County

On Saturday, February 3, the Allegheny County (Pennsylvania) Beekeepers Association held their annual meeting. The following officers were elected: Charles E. Virden, Pittsburg, president; A. T. Keil Mars, first vice-president; J. S. Fleck, Pittsburgh, second vice-president; L. E. Havekotte, Pittsburg, secretary-treasurer. L. E. Havekotte.

♦

### New Officers, Rusk-Sawyer (Wis.)

Newly elected officers of the Rusk-Sawyer County Association were installed at the regular meeting at Exeland, Wisconsin, January 12, as follows: Nathan Paddock, Bruce, president; Leroy Colbert, Exeland, vice-president; and Carl G. Hallberg, Winter, secretary.

H. C. Brunner.

### Florida Association

The State Beekeepers Association met in connection with the Pinellas County Association at Largo, Florida, in February. Beekeepers and friends from more than a dozen states, and representatives from Canada were present.

Mr. H. C. Shoulders, president of Pinellas County Association, spoke of the progress of the organization, its purposes and plans for a more effective program. Mr. R. E. Foster, state apiary inspector, spoke of the general subjects of interest at this time, stating that Florida bees were in an exceptionally good condition despite the coldest weather we have had in the state. The beekeepers present were all enthusiastic over the prospect of a nice showing.

Mr. Foster introduced a number of beekeepers of much experience. Mr. Harry Lathrop, of Bridgeport, Wisconsin, was the oldest beekeeper present and contributed much to the program by his talk and the rendition of several numbers on his flute.

Mr. R. I. Mertz, of Michigan, gave an interesting account of the therapeutic value of bee stings. He was crippled by a severe case of arthritis and was bed ridden a year ago, but under the direction of a doctor was administered the bee venom therapeutic treatments as given by Dr. Bodog F. Beck and states he is now greatly improved in general health since the treatments.

Mr. Coblentz, of Red Lake, Minnesota, one of the largest comb honey producers in the United States, talked on the condition of honey production in Minnesota.

Mr. Morley Pettit, of Tifton, Georgia, was also present and discussed Georgia's honey production.

One of the highlights of the day was the enjoyable turkey dinner served by the Ladies Auxiliary. The Auxiliary has become quite an addition to the Association. Mrs. R. W. House, president, requested Mrs. R. E. Foster to give report of the food display at the State Fair. This display was conceded to be a great improvement. Entries have increased seventy-five per cent in the past two years, showing also the increase in improved and various ways of using honey as a food.

Much discussion was centered on plans for the meeting of the Southern States Beekeepers Federation which meets in Tampa, Florida, November 18-20, 1940.

H. S. Foster,
Secretary Southern States
Beekeepers Federation.

### Minnesota Valley Beekeepers Ass'n.

The Minnesota Valley Beekeepers Association held their annual business meeting at Norseland in February. Speakers from out of the state were J. W. Newton, of Baton Rouge, Louisiana, who spoke on the queen and package production in the South for more northern climates, and Newman Lyle, of Sheldon, Iowa, who is president of the Iowa State Beekeepers' Association. He listed the required qualities of a queen in commercial apiaries. Other speakers were Charles S. Hofmann of Janesville, president of the Minnesota Beekeepers Association; N. L. Ellingson, of Northfield, secretary of the state association; and Earl Rood, of Nicollet. Mrs. Earl Rood, who is president of the auxiliary of the state association, announced that each auxiliary member was developing her own kitchen into an approved test kitchen, in which honey would be used experimentally. In the late afternoon tour was made to the Jens Annexstad farm where a new method of wintering was being used by LeRoy C. Swenson. The tour continued to the C. Edwin Swenson home to observe his compartment house method of wintering and his bee cellar.

In the evening the Swensons opened their home to the members of the association for the evening session.

C. Edwin Swenson,
Secretary-Treasurer.

♦

### Southern Wisconsin Association

Ivan Whiting, Roscoe, Illinois, was re-elected president of the Southern Wisconsin Beekeepers' Association at the annual meeting February 17 in the Y. M. C. A. at Janesville, Wisconsin. M. Onen was elected vice-president and the Rev. F. C. Richardson, secretary-treasurer. Both are from Beloit, Wisconsin.

Speakers included H. J. Rahmlow, Madison, secretary of the State Horticultural Society, and C. D. Adams, Madison, in charge of disease inspection work for the state department of agriculture.

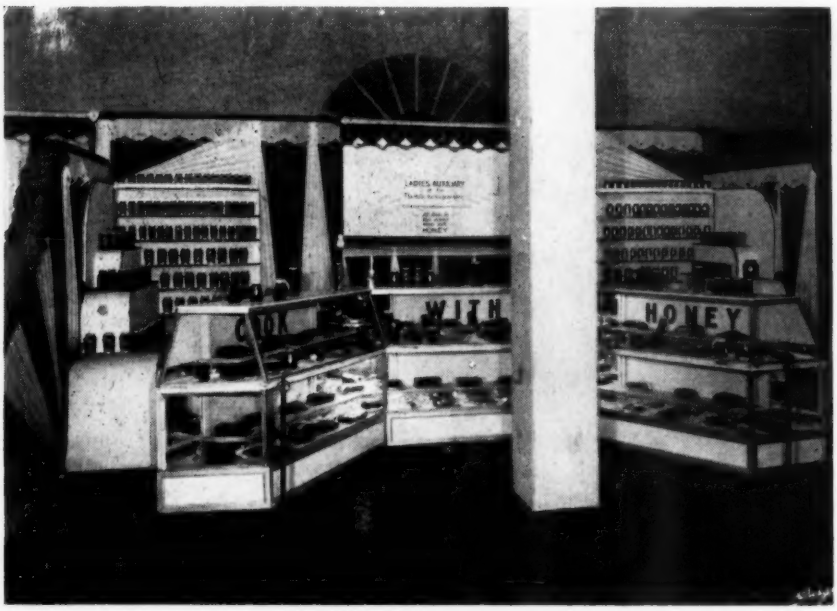
Inspection of diseased colonies and study of disease problems over a 20-year period have led to the belief that old bee equipment is the reason for continued existence of American foulbrood in bees, Mr. Adams told the gathering.

Mr. Adams said that the disease is known to live for many years on unused equipment and he believes this is the answer to the slow progress being made in its eradication.

More than 60 beekeepers attended the annual meeting. It was voted to hold the 1941 convention again in Janesville.

H. C. Brunner.

# FLORIDA AUXILIARY DISPLAY




The Ladies Auxiliary of the Florida Association put on the third honey food display at the Florida State Fair at Tampa, January 30 to February 10, in an effort to promote honey in cooking. We feel our time was well spent. The increase in entries was encouraging. The first year we had 47 entries, the second 52, and this year 68. The same lady has judged the food each year and says the improvement in the quality and in the variety of different kinds of food is amazing.

The questions asked and the interest shown proves definitely that people are becoming educated to the use of honey in cooking. The demand for honey recipe booklets was so great that we could not supply them and had to refer inquiries to the American Honey Institute.

The beauty of the Ladies Auxiliary booth was due to a large extent to Mr. Harold Struthers, of Lake Wales, as he made the show cases in which the food was displayed. The ladies who made entries received handsome premiums. We greatly appreciate the cooperation from the ladies and the beekeepers, who helped in so many ways. We hope next year's display may be even better and bigger than ever.

Mrs. Robt. E. Foster,
President Ladies Auxiliary.

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### Bronx County, April 14

The next meeting of the Bronx County (N. Y.) Beekeepers Association will be held April 14 at 2:30 p. m. at the home of William Lienhard, 2341 Hermany Avenue, Bronx. A social will be held Saturday evening, April 6 at 8 p. m. at Bentz's Hall, 2366 Westchester Avenue, at the corner of Zerega Avenue, Bronx. A good time is guaranteed. Prizes of bee accessories will be awarded in contests.

Adolph Loehr, Sec'y.
429 Fairmount Ave.
Jersey City, N. J.

♦

### Middlesex County, April 27

The Middlesex County (Mass.) Beekeepers Association will meet at 19 Everett Street, Concord, at 7:00 p. m. on Saturday, April 27, Perley S. Smith, of Newburyport, who spent the winter in Willacoochee, Georgia, will speak about his experiences among the southern bees. Mrs. Chas. W. Boyer, of Action, will be in charge of the Ladies Auxiliary supper featuring American chop suey with potato chips and green salad, honey fruit gelatine and honey cookies. This is the meeting for election of officers and will probably be the last indoor meeting until fall.

Arthur M. Southwick,
President.

♦

### Auxiliary Membership Contest

The National Ladies Auxiliary of the American Honey Industry is having a membership contest. There will be a regional prize of fifty dollars, ten dollars each given by Dadant & Sons, G. B. Lewis Co., August Lotz, A. I. Root Co., and A. G. Woodman Co. The United States has been divided into six regions with a vice-president over each.

There will be another prize also to the state having the most members by December 1, 1940, of one hundred copies of "100 Honey Helpings" given by T. W. Burleson & Son, Waxahachie, Texas.

If your state does not have an auxiliary or does not have a meeting before December 1, 1940 send your twenty-five cents to the National Auxiliary Secretary-Treasurer, as an individual beekeeper. Address Mrs. E. H. Bremer, Route 1, Box 368, San Antonio, Texas.

♦

### Fifth Wabash Round-Up, Sept. 7

The Fifth Wabash Valley Round-Up of Illinois and Indiana bee keepers will be held at Newport, Indiana, Saturday, September 7. L. R. Stewart will again sponsor the meeting assisted by the Newport High School 4H Bee Club. An excellent program of short talks and contests is being arranged. One of the contests, open to all, will be an essay on the subject, "How I Sell My Honey." This s to be a true story of your method in as many words as necessary and must be in Newport not later than September 1. The winning essay will be read at the Round-up and receive a copy of Dr. Beck's "Honey and Health."

One of the established all-time records for attendance of any bee meeting in the United States, and probably anywhere else in the world, is still held by the Wabash Valley Round-Up. We do not expect any less to happen this year. If you want a three-ring circus with more doing from morning until night than you can possibly digest, more fun, more entertainment, more good food, more wonderful folks from all the Middle West, see and visit, and plan right now to take a trip to the next Wabash Valley Round-Up, September 7, at Newport, Indiana.

♦

### Delta Beekeepers Association

The regular monthly business meeting of the Delta Beekeepers Association was held at the Y. M. C. A., Vicksburg, Mississippi, February 5, with a good attendance. We learned with regret that the retiring president, G. C. Bristow, was expecting to be transferred to Charlotte, North Carolina in the near future. William Innamen of Stover Apiaries, Natchez, was welcomed into the association.

Plans for the activities of the association during the next few months were made and many interesting projects are in progress. Cards for taking a census of all beekeepers in Warren County and vicinity were distributed to members and it is expected that the census will make good progress. It is the

desire of the association to secure the name and address, and other information, from every person who owns bees in this vicinity, whether he owns one colony or one thousand colonies. It will be greatly appreciated if beekeepers will communicate with the association, advising how many colonies they own.

During the meeting the following new officers were elected; J. D. McCarron, Vicksburg, president; Frank Hay, Port Gibson, vice-president; Claude C. Lee, Vicksburg, secretary. Appointments made consisted of Frank Hay, of Port Gibson, as chairman of the nursery committee, with A. B. DeLozier and Harold Smith as other members of the committee. Alonzo McKay was appointed librarian and Claude C. Lee, editor of B-Z-Z-Z, official publication of the association. A vote of thanks was given to the retiring officers for the efficient service rendered during their terms of office.

The next field meeting of the association will be held at the apiary of A. B. DeLozier, 3407 Washington Street. The field meet for March was held on March 17 with William Innamen, visiting the Stover Apiaries. Members are urged to keep meetings in mind and to be present. The business meeting of the association is held on the first Monday of each month at the Y. M. C. A. at 8 p. m. All persons interested in bees are invited to attend the meeting.

♦

### April Indiana Meetings

| Date | County | City | Time P.M. |
|---|---|---|---|
| April 6 | Johnson | Franklin | 1:30 |
| April 8 | Jackson | Brownstown | 1:30 |
| April 9 | Washington | Salem | 1:30 |
| April 9 | Harrison | Corydon | 7:30 |
| April 10 | Floyd-Clark | New Albany | 7:30 |
| April 11 | Jefferson | Madison | 1:30 |
| April 12 | Scott | Scottsburg | 1:30 |
| April 12 | Bartholomew | Columbus | 7:30 |
| April 13 | Hancock | Greenfield | 1:30 |
| April 15 | Gibson | Princeton | 1:30 |
| April 16 | Posey | Mt. Vernon | 7:30 |
| April 17 | Vanderburg | Evansville | 1:30 |
| April 18 | Spencer | Rockport | 1:30 |
| April 19 | Warrick | Boonville | 1:30 |
| April 20 | Pike-Dubois | Petersburg | 1:30 |

♦

### Illinois Auxiliary

The Illinois Ladies Auxiliary boosted the use of honey at the state meeting of Household Science at Decatur, February 22. Five hundred 8 ounce jars of honey and a few combs of honey were given out to home-makers and delegates from sixty-nine counties in Illinois who attended the meeting. The County Auxiliary leaders who did this work were Mrs. E. C. Wikowsky, Mrs. C. W. Mussulmen and Mrs. E. N. Simmer.

The Auxiliary officers who assisted in collecting the samples from producers were: regional vice-president, Mrs. C. A. Holmes; and secretary-treasurer, Mrs. R. O. Klebes. Mrs. Irene W. Duax, speaker for Household Science, gave a broadcast over WLS on "What Auxiliary Women Are Doing to Promote the Use of Honey," and also spoke on the afternoon program of the Institute on "What's New in Honey?"

Katherene Klebes,
Secretary-Treasurer,
Illinois Beekeepers Aux.

♦

### New Jersey State Association Officers

John Conner, of Caldwell, was elected president of the New Jersey Beekeepers Association at its annual convention held during the annual State Agricultural Week and Farm Show, at Trenton, January 23-26. Conner succeeds William Kampfe of Morristown. Other officers are William G. Hayes, Far Hills, first vice-president; Milton Stricker, Maple Shade, second vice-president; Curtis A. Wightman, R. D., Morristown, third vice-president; and Elmer G. Carr, Pennington, re-elected secretary-treasurer.

Bethune Jones.

♦

### Yakima County Bee School

The Yakima County (Wash.) Beekeeper's Association and the County Extension Service of the State College fostered their first bee school on March 9. The program included lectures on the economic aspect of beekeeping particularly relating to bees as pollinators.

♦

### Lorain County, April 8

The Lorain County (Ohio) Beekeepers Association will meet two miles north of Oberlin, Ohio, at the home of Mr. and Mrs. Theo. W. Manns, on Monday evening, April 8 at 8 o'clock.

Geo. E. Yost,
Secretary.

♦

### Wisconsin Statutes of Interest to Honey Dealers

Two 1939 Wisconsin statutes of interest to honey dealers which were held respectively invalid and constitutional in recent state court decisions will be appealed to the state supreme court.

On January 27, Circuit Judge Gustave G. Gehrz, at Milwaukee, held unconstitutional the Young Trading Stamp Law, which prohibits the issuance of trading stamps on articles sold under a price agreement with the manufacturer. Judge Gehrz's invalidation of the entire act was based on his decision that it constitutes an unconstitutional delegation of the exclusive right of the legislature to create and enact laws and an illegal invasion of the property rights of the plaintiffs.

On February 2 at Madison, Judge Roy H. Proctor upheld the constitutionality of the Unfair Sales Act to prevent loss leaders in a case involving a local store charged with selling nationally advertised merchandise below cost. The firm was fined $25 on each of the two counts. The Unfair Sales Act provides for a 6 per cent mark-up above wholesale cost on the retail price of all merchandise.

H. C. Brunner.

♦

### Creston Valley Association (B. C.)

The Creston Valley Beekeepers' Association in British Columbia was organized at a meeting of fifty beekeepers recently. H. A. Rogers, president; H. Demchuck, vice-president; and C. B. Twigg, secretary-treasurer. There are about 500 colonies in the area with the 1939 crop of ten tons.

F. H. Fullerton.

♦

## BRAITHWAITE, President

J. W. Braithwaite, of Brandon, Manitoba, was elected president of the provincial association at the convention held in Fort Garry Hotel, Winnipeg. He is also president of the recently organized co-operative. Other officers elected were: Honorary president, Brother T. Pineault, Otterburne; first vice-president, Stanley G. Smith, Oakbank; second vice-president, W. M. Duncan, Carman; secretary-treasury, L. T. Floyd, Winnipeg; directors, Flavien Baril, St. Adolphe; A. Bernardin, Elie; Syd Coulthard, McGregor; Roy Mullin, Myrtle; Hugh McLaughlin, Plumas; Henry Mueller, Steinbach; D. Castle Dauphin, Crystal Plains; and J. L. Correll, St. Claude. J. C. Rippingale, Oakbank, was named the association director on the board of the Royal Winter Fair, Toronto.

Resolutions were adopted providing for appointment of a committee to draft a proposed advertising and publicity campaign for honey in the province; condemnation of the practice of illegal packing of honey in unmarked containers; a request to the provincial government to implement legislation providing for grading honey sold within the province, and more vigorous action against foulbrood.

F. H. Fullerton.

# INSTITUTE NEWS NOTES

The rapidity with which honey moves depends largely upon the clever methods of display. An attractive display of various sized containers in mass advertises itself to consumers.

♦

Grocers should display honey in different food departments. Honey should move with every order of groceries that goes out the door. Honey should glitter so brightly from the shelf that it would glide into the order of every buyer. There should be an urge in every label and in every jar.

♦

A committee of eight club women, prominent in the state and city organizations of women's clubs, meeting with the Consumer's Day Committee of the Woman's Advertising Club of Chicago during January compiled a list of material helpful for individuals and for club programs. One of the twenty-four pamphlets on food that was chosen was "Honey Facts." Requests for this leaflet have come in from various sections of the country because of this recommendation.

♦

Missionaries from Africa, who are home in Chicago on a furlough, will carry American Honey Institute recipes back with them.

♦

It is refreshing to receive letters from persons in the medical field stating that they are advising all of their patients to eat honey.

♦

"Honey for Breakfast" window streamers may be used the year around.

♦

"Food Field Reporter" advertised "Honey for Breakfast" campaign with the heading "Honey Breaks Easter Morn". The "Progressive Grocer" advertised it in the March issue by calling attention to Honey week, March 25 to March 30, and stated that many food stores have found honey a profitable traffic puller when well promoted and displayed. "The New York Herald" was one of the many papers that gave the slogan, "Honey for Breakfast" publicity.

The American Honey Institute plans to sponsor the biggest honey drive of all time this fall. It is being planned now.

♦

Thousands and thousands of individual requests for leaflets that have been described over the radio are being mailed out from the American Honey Institute office.

♦

Wouldn't it be well to give a copy of the March issue of "Institute Inklings," which contains an article by authorities on infant feeding, to mothers.

♦

Teachers of Homemaking in the state of Colorado are promoting the use of honey in their foods work in the homemaking classes.

♦

The October issue of the "Institute Inklings" was in great demand by business people. The Institute has received letters from lawyers, physicians and business houses asking to have their names put on the mailing list.

♦

In the March 4 issue of "Food Field Reporter" there was an interesting article on "California Chilled Fruit Company Freezes Naval Oranges in Honey Lemon Syrup."

♦

If you did not receive a copy of Institute Inklings recently let us know and we will be pleased to send you a copy.

♦

## LET'S HAVE ORDERLY MARKETING

(Continued from page 149)

hard struggle to raise even a small fund of money. This fund, although too small for any outstanding accomplishment, has shown us what can be done. If the bulk of the honey went through bottlers, it should be easier to get an adequate advertising fund together. In this advertising program should be included market development, the discovery and promotion of new uses for honey. Such promotional work cannot be carried on by individual producers, but must be done by an organization.

How are we to achieve this end of getting the small beekeeper to sell his honey to a packer rather than try to market it himself? The fact that most of the small beekeepers do not read bee journals, seems to preclude the possibility of approaching it from that angle. A balancing factor is that undoubtedly the key beekeepers in any area do read the bee journals and if they could be sold on the idea, it would soon spread out from them.

But I think it can be accomplished by the packers. The fact that they do put out standard packs and consistent quality, that they do keep after the markets twelve months of the year, will gradually bring the business to them. The only thing that remains is to get them together and put honey over with the public. In the past the packers have shown little willingness to cooperate, either in advertising or in price stabilization. But, sooner or later, in order to put the honey industry on a more firm basis, it will have to be done and it will be done.

♦

## ILLINOIS INSPECTION FIGURES—SUMMARY

**Recapitulation**

| | Total Cols. in Yds. | A.F.B. | Cols. Inspected |
|---|---|---|---|
| 1934 | 100,826 | 10,790 | 86,917 |
| 1935 | 102,759 | 8,810 | 80,268 |
| 1936 | 78,588 | 6,252 | 67,669 |
| 1937 | 81,531 | 4,978 | 67,792 |
| 1938 | 88,040 | 4,855 | 70,577 |
| 1939 | 112,034 | 7,213 | 93,478 |
| | 563,778 | 42,898 | 466,701 |

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American Milk Goat Record Association
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ADDRESS:
The Goat World, Vincennes, Indiana

# CROP AND MARKET REPORT

Compiled by M. G. DADANT.

For our April issue, we asked our reporters to answer the following questions:

1. How are bees coming through winter?
2. Do honey plants look as good as a year ago?
3. How much honey left on hand compared to same time last year?
4. Will there be much carryover into new crop year in your section?

Colonies are not in as good condition as they were a year ago at this time. The late warm fall induced bees to use up their honey to some extent. This was followed by an unprecedented long drawn-out cold spell in the northern sections with many cases where the bees had no flight for at least two, and in some sections, three months.

The result has been, from reports coming in, that in many cases colonies have died with plenty of honey in the hives, simply because the bees were confined to a small cluster and unable to move over to their stores. This winter heavy packing would have been desirable, to increase the warmth of the colony and allow the bees to move.

There seems also to be a shortage of bees because an insufficient number of young bees went into the winter. This is probably due to the fact that in most sections there were no late crops last year. Therefore brood rearing was short, especially as not a great deal of requeening was done.

The New England States report about normal conditions; but in New York and through Pennsylvania and into the Central West, the bee losses are undoubtedly going to run pretty heavy, reporters listing as high as 50 per cent loss with an average probably of 15 per cent. The southeastern states are in a satisfactory condition; but, of course, the bees are coming on late on account of the unusual cold spell and winter conditions. Heavy losses are expected in the Central West which undoubtedly will mean a comparatively heavy demand for package bees, especially where losses are accompanied by much honey left in the hives. Strangely enough, as we go west, conditions seem to be better with less possibility of a loss in the plains states, and in the intermountain territory conditions seem to be about normal. In California, reports are that there are many shortages of stores but that otherwise bees are perhaps within 80 to 90 per cent of normal conditions.

### Honey Plants

We all know that the late dry summer and fall did not allow the usual growth of honey plants. Wherever this drought carried into the winter, although there may have been satisfactory precipitation, the subsoil moisture is in many cases deficient. This moisture deficiency extends from the New England States to the intermountain territory, although conditions are somewhat better in the plains states than a year ago when similar drought was feared.

Michigan seems to be the nearest normal, with Wisconsin and Minnesota following, owing to very heavy snowfall in these areas. The southeastern states report unusually desirable conditions although they have been hurt and delayed somewhat by the early spring cold. The balance of the South may be considered normal except for the cold spell, but Texas still complains of too much dry weather.

It is in California that we notice such a great variance with last year's conditions. Honey plants are at least 200 per cent better than last year, owing to satisfactory rainfall and proper conditions during the winter It appears California may be due for a good honey crop this year.

### Honey on Hand Compared to 1939

There is not a bit of doubt that there is going to be a far better clean up of honey than there was a year ago. In most cases, reporters state that there is far less honey on hand, although a few isolated cases report more. Kentucky, Mississippi, western South Dakota, and Colorado are those states which seem to have more honey on hand now than they had at this time last year.

However, the New England States, New York, and down the coast to Florida and across the South into Texas, there seems to be practically no crop left on hand, compared to considerable on hand last year. Even the central western states are cleaning up rapidly and report far less honey on hand now than a year ago. This bears out the opinion of the honey packers who said at their meeting in Chicago that very little honey would carry over through the present spring.

Probably the demand from Canada, which has resulted in the shipment of a number of cars for export to the British Isles, has had a satisfactory effect. Reporters who a month ago feared not being able to dispose of their crops are now considerably relieved.

Naturally as Canada is importing honey, they have very little of their own crop on hand; and the Canadian situation may be said to be entirely satisfactory. In fact, prices of Canadian domestic honey have advanced materially to meet the shortage in supply.

### Carryover into New Crop Year

There will be very little carryover into the new crop year, especially when compared to the carryover of a year ago. In some sections there are isolated lots held by large producers for a better figure. These lots may not sell; yet the possibilities are that during April and May this honey also may reach the market. This is particularly true in the Imperial Valley where prices have been extremely low for amber honey. It also happens to be the case in Colorado where there is high quality honey which should move. There are also a number of central western producers who are carrying from one to three cars of honey, anticipating a price of at least five cents, which the writer thinks they will get.

The situation is far better than it was a year ago even though this year honey prices have been unfortunately low. As we stated in our fall issues, the honey crop seemed short and there appeared to be no reason on earth for honey prices to slump. Yet they did slump, and undoubtedly they slumped at least without justification.

Some day we may get orderly buying and orderly marketing of honey which will stabilize price according to production, at least; and then we may not meet again conditions like those which have existed during the past six months.

The condition of bees and condition of honey plants seems far under normal this year. The carryover of honey will be normal or sub-normal. Such conditions should encourage the beekeeper who finds himself located in an area where the 1940 crop prospect is good. In any case this is no time to be discouraged.

WANTED — HONEY
Jewett & Sherman Co.
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HONEY WANTED Cars and less than cars Mail Samples
C. W. AEPPLER CO., Oconomowoc, Wisconsin

Iverson Honey Company (Not Inc.)
Successors to
Edwin H. Guertin, 201 N. Wells St., Chicago
Extracted Honey bought and sold
Reference: First National Bank of Chicago

# THE MARKET PLACE

## BEES AND QUEENS

**WE ARE CAUCASIAN BEE SPECIALISTS. Write for interesting folder containing prices. CAUCASIAN APIARIES OF CALIFORNIA, RIPON, CALIF.**

GOLDENS solid yellow to tip. Health and improvement in length. Untested 75c; tested $1.50. Satisfaction guaranteed. H. G. Karns, Rt. 2, Glen Allen, Va.

PACKAGE BEES—Save money on May shipments. Write for prices. Elevation Apiaries, Milano, Texas.

LOOK—Three banded Italian bees and queens of fine quality. They are fine honey gatherers. A trial order will convince you Alamance Bee Co., Geo. E. Curtis, Mgr., Graham, N. C.

READY April 10th, CARNIOLANS, CAUCASIANS—package bees and queens. 2-lb. pkg. $2.00, 3-lb. pkg. $2.50; untested queens 50c each, any number. Prompt shipment. Safe arrival. Tillery Brothers, Rt. 4, Box 132, Greenville, Alabama.

UNEXCELLED THREE BANDED ITALIAN BEES AND QUEENS. Selected stock from our own honey producing apiaries. 2-lb. package with queen $2.00; additional pounds bees 50c. Untested queen 50c. Ten to twenty, 10% discount; twenty up, 12%. Sensational prices on nuclei. Twenty per cent overweight in bees. No disease, service, arrival, satisfaction guaranteed. Consider trades. Sowhatchee Apiaries, Hilton, Ga.

IF YOU WANT HONEY get Caucasian bees. 2 pound packages $2.00 with Caucasian or Italian queens. We use only the best. Oregon Bee Co., Rt. No. 1, Box 296, Salem, Oregon.

BUY OUR MAY PACKAGES at a saving. Prices on request. Elevation Apiaries, Milano, Texas.

GOLDEN ITALIAN QUEENS, golden to the tip, 50 cents. Loehrs Breeding Farm. Caldwell, Texas.

CAUCASIANS EXCLUSIVELY—"The bees that pay dividends." QUEENS AND PACKAGES for early delivery. Your guarantee?—Fifteen years of satisfactorily serving the West. T. L. Nicolaysen, Salida, California.

QUEENS WITH CHARACTER. Shipped when you want them. The best that can be produced, at a price you can afford to pay. 20 years' experience. D. P. Green, DeLand, Florida.

CAUCASIAN PACKAGE BEES. Reduced price but same high quality, long-tongued, gentle, prolific, dependable workers. 2-pound package with queen $2.00; 3-pound package with queen $2.50. No discount. Safe arrival and satisfaction guaranteed. P. B. Skinner Bee Co., Greenville, Alabama.

ITALIAN BEES (three band) 60 cents lb. Queens 60 cents. Service and quality guaranteed. Shipping point Epes, Alabama. Little Brothers, Sumterville, Alabama.

FIRST-CLASS PACKAGES for May delivery at a saving. Elevation Apiaries, Milano, Texas.

GIDDINGS' QUEEN APIARIES. Specialized production of best of queen bees—Italian, Caucasian, Carniolan, Cyprian, and Austrian. Also pure desert honey. Ennis M. Giddings, Riverside Co., Blythe, California.

PACKAGES WITH QUEEN INTRODUCED prevent supersedure and loss of queens. Free folder tells their advantages over others and how we do it. A. O. Smith, Mount Vernon, Indiana.

QUEENS — PACKAGES — NUCLEI. Best quality. Paul Cassady, Davidson, N. C.

GOLDEN QUEENS 75c each excellent quality, hardy, gentle, productive. Health certificate. Service and satisfaction guaranteed. Personally reared. O. E. Brown, Rt. 1, Asheboro, N. C.

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Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers we require reference of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspectors. Conditions should be stated to insure that buyer is fully informed.

---

PACKAGE BEES and QUEENS. Golden and leather colored Italian. Prompt shipment. Bees that get the honey. No disease. Safe arrival. Book order early. Discount to dealers. Satisfaction guaranteed. Boudreaux Apiaries, Leonville, Louisiana.

GOOD COMBLESS PACKAGE BEES AND QUEENS. Gentle, prolific, well-bred, three banded Italians. Used for years by leading beekeepers of the U. S. and Canada. Many outstanding records for honey production. New cages—Full weight packages—No drones—No disease. 2-lb. pkgs. with select young laying queens $2.45 each, 20 or more $2.30 each; 50 or more $2.15 each; 100 or more $2.00 each. 3-lb. pkgs. with queens $3.15 each; 20 or more $3.00 each; 50 or more, $2.85 each; 100 or more $2.65 each. Express or mail, f. o. b. here. Select young laying queens 75c each; 20 or more 70c each; 50 or more 65c each; 100 or more 60c each, postpaid. Order now and have your shipping date reserved. Price list on request. H. C. Short, Fitzpatrick, Ala.

PACKAGE BEES AND QUEENS—Service. Satisfaction. Sternenberg Bros. Lockhart, Texas.

## HONEY FOR SALE

**HONEY FOR SALE—We buy and sell all kinds, carloads and less. The John G. Paton Company Inc. 630 Fifth Avenue, New York, N. Y.**

HOWDY'S HONEY—A small lot of good buckwheat extracted. All other grades sold out. Howard Potter, Ithaca, Mich.

FOR SALE—Choice Illinois sweet clover honey in 60's, $4.50 per can f. o. b. C. E. Baier, Cissna Park, Illinois.

FOR SALE—Buckwheat honey granulated, 60 lb. $2.70. Edward Hogan, Gibson St., Canandaigua, N. Y.

CHOICE, DARK, AUTUMN BLOSSOM HONEY 6c. Dearing Bros., 94 Deerhurst Blvd., Kenmore, N. Y.

MICHIGAN'S FINEST WHITE CLOVER HONEY. No disease, new cans, 6c. You will be pleased. John McColl, Tecumseh, Michigan.

**CHOICE EXTRACTED CLOVER HONEY in 60's. R. C. Bish, Successor to Moore Apiaries, Tiffin, Ohio.**

**FOR SALE—Fancy, well ripened, white sweet clover honey in 60-lb. cans, by the case or carload. Extra good quality. Dadant & Sons, Hamilton, Ill.**

**FANCY TUPELO HONEY for sale, barrels and 60's. Marks Tupelo Honey Co., Apalachicola, Florida.**

**FOR SALE—Fancy Iowa white clover extracted honey. Kalona Honey Co., Kalona, Iowa.**

**CHOICE Michigan Clover Honey. New 60's. David Running, Filion, Michigan.**

**COMPLETE LINE comb and bottled honey. Pure clover. Also packed in 5's and 60's. Central Ohio Apiaries, Inc., Millersport, Ohio.**

**ORANGE, Palmetto and Mangrove honey in new sixties. Peter W. Sowinski, Fort Pierce, Florida.**

**FOR SALE—Northern white extracted and comb honey. M. W. Cousineau, Moorhead, Minn.**

**HONEY PACKERS—Write us for prices on carload lots of California and Western Honeys. We stock all varieties. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, California.**

**WE BUY AND SELL ALL KINDS COMB AND EXTRACTED, CARLOADS AND LESS. H. BLITZ, P. O. BOX 3452, PHILADELPHIA, PA.**

**HONEY FOR SALE—All kinds, any quantity. H. & S. Honey and Wax Company, Inc., 265-267 Greenwich Street, New York.**

**FOR SALE—Honey by the carload. Imperial Valley Beekeepers Association, 47 Heber Avenue, Calexico, California.**

**HONEY FOR SALE—Any quantity, all varieties. B-Z-B Honey Company, Alhambra, California.**

**GOOD CLOVER extracted 6c in sixties; light amber 5½c. H. G. Quirin, Bellevue, Ohio.**

COMB HONEY—No. 1 clover $2.75 case; No. 1 amber or buckwheat $2.25. Clover extracted 6½c; amber 6; buckwheat 6c. C. B. Howard, Geneva, N. Y.

**FOR SALE—Highest grade clover honey at 5¾c. Edw. Klein, Gurnee, Illinois.**

**FOR SALE—9 tons of Finest Clover Extracted at 6c f. o. b. Bellevue. N. B. Querin, Bellevue, Ohio.**

**FOR SALE—Extracted honey. Write for price. H. E. Nichols, Owasa, Iowa.**

**CHOICE well ripened, clover honey, $3.25 60-lb. can. M. Noack, Rt. 2, Plano, Ill.**

## HONEY AND BEESWAX WANTED

**CASH FOR YOUR WAX the day received. Write for quotations and shipping tags. Walter Kelley Co., Paducah, Kentucky.**

CLOVER HONEY in 60's. Send sample. Albert Knack, Geneseo, Illinois.

**ALL GRADES extracted honey wanted. Bee supplies and honey containers for sale. Praire View Apiaries, 12243 12th Street, Detroit, Michigan.**

**WANTED—Large quantities of chunk comb in shallow frames; also section honey. Central Ohio Apiaries, Inc., Millersport, Ohio.**

**WANTED—Carlots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, California.**

## FOR SALE

**FOR SALE—We accumulate bee supplies at our warehouses, slightly shopworn and fully serviceable, but discontinued for lack of sale. Write for complete bargain list. G. B. Lewis Company, Watertown, Wisconsin.**

**FOR SALE—400 2-story 10-fr. colonies, A1 condition. $6.00 each. Edw. Klein, Gurnee, Illinois.**

**EQUIPMENT for 6 colonies. Melvin Bentdahl, Madelia, Minnesota.**

FOR SALE—50 colonies bees. Must close out in 30 days. Geo. Gordon, 418 S. W. 2nd Ave., Miami, Florida.

100 COLONIES of bees. Each hive is of 10 frame size, 2 bodies deep. Otto Park, Route No. 1, Box 140, Birmingham, Mich.

2 FRAME COWAN EXTRACTOR; 75-8 frame queen excluders; 20 feeders; 100 colonies bees. Mrs. Chester Keister, Route 1, Monroe, Wisconsin.

NINETY COLONIES BEES, two story standard dovetailed hives, free of disease. Forty acres land, three room house, on good stream in western Washington's best fireweed location. Address Box 1054, Longview, Washington.

TWO HUNDRED ten frame, one hundred eight frame dovetailed hives, clean, good condition, forty cents each. Comb honey supers, 4¼ sections, twenty cents each. J. R. Wooldridge, 2021 W. 70th St., Chicago, Ill.

SELLING several two-story colonies healthy state inspected bees, standard equipment, May first. A. N. Durrant, Rt. 1, Sharonville, Ohio.

FOR SALE—75 colonies of bees, 10 frame hives. Guaranteed no disease. Other business reason for selling. S. B. Haddon, Blanket, Texas.

20 COLONIES BEES for sale. 10 frame hives. State inspected. Price $3.00 each. Rufus Pendleton, LeRoy, Illinois.

75 COLONIES BEES in ten-frame two-story hives; good condition. Inspection certificate furnished. Box 144, Forest Grove, Oregon.

HIGH GRADE BEES cheap. Apiary in town over 40 years, one block from Maine Street. No. disease. Geo. F. Schilling, State Center, Iowa.

## HELP WANTED

WANTED by May 6th—Single, experienced beeman, with clean habits, for this season. Room and board furnished. State age, experience, weight and wages wanted. Located near Milwaukee. John Kneser, Route 1, Hales Corners, Wisconsin.

EXPERIENCED middle aged man desires to run apiary on shares or salary. Available May first. References. T. B. Bownds, Snyder, Texas.

FOR 1940 SEASON, or more, young married man with some knowledge. Tell all about yourself and pay wanted. No cigarette user. Box Z, c/o American Bee Journal.

WANTED—Young man, with good habits, to work in apiaries. State experience. Burghardt Honey Farms, Jewell, Iowa.

WANTED—Several men for 1940 season. Edw. Klein, Gurnee, Illinois.

## SUPPLIES

CUT COMB HONEY cartons and equipment. Get our prices on everything for cut comb honey. James Hilbert, Traverse City, Mich.

WRITE FOR CATALOGUE. Quality bee supplies at factory store prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Onsted, Michigan.

PINARD nailless queen cage. Agents: Diamond Match Company, Los Angeles and Chico, California; Weaver Apiaries, Navasota, Texas. Samples. A. B. Pinard. 810 Auzerais Avenue, San Jose, California.

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LARGE CASH SAVINGS can be made by letting us work your wax into either wired or plain foundation. Send us a list of your needs so we can quote our very lowest early order discount prices. WALTER T. KELLEY CO., PADUCAH, KENTUCKY.

COMB FOUNDATION at money-saving prices. Plain, wired, and thin section. Wax worked at lowest rates. Combs and cappings rendered. E. S. Robinson, Mayville, N. Y.

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FOR SALE—Medium brood 10 pounds $4.50. Fred Peterson, Alden, Iowa.

## DAIRY GOATS

DAIRY GOAT JOURNAL, Dept. 401, Fairbury, Nebraska, (big monthly magazine, 3 years $1.00) gives complete information. Introductory 5 months 10c.

## TRADE

TRADE honey for chicks. White, Brown Leghorns, Reds, Rocks, Wyandottes. Sexed chicks. U. S. R. O. P. males. Ames Hatchery, Deerfield, Wisconsin.

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2 COLORADO BLUE SPRUCE, or 2 BLACK HILL SPRUCE, or 3 JUNIPER VIRGINIANA (8 inch, once transplanted), or 9 BASSWOOD SEEDLINGS 2 foot, or 6 Pink HONEYSUCKLE bushes 12 inch, or 25 Caraguanna hedging (Siberian Pea Tree) 18 inch. for $1 bill, postpaid. Nectar producers. Lewis-Dadant dealers for this territory. Nicollet County Nursery, St. Peter, Minn.

SEEDS of yellow cleome, figwort, wingstem. Bird's-foot trefoil, wild senna and other honey plants, 15 cents per packet, eight packets for one dollar. Melvin Pellett, Atlantic, Iowa.

NANCY HALL SWEET POTATO and BERRY plants. Also some old Bee Journals. C. F. Sager, Chillicothe, Illinois.

## MISCELLANEOUS

"MICHIGAN BEEKEEPER" is the "newsy" magazine. Published monthly. 75c a year, 2 years $1. Send 10c for single copy. MICHIGAN BEEKEEPER, 406 E. St. Joseph Street, Lansing, Michigan.

WANTED—To buy bees for cash, large or small lots, in Central States. Box X, American Bee Journal.

CARTONS for Cut Comb Honey. New attractive designs with your name and address. Low prices. Fast service. Samples on request. May Carton Co., Box 257, Traverse City, Mich.

THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents, stamps. Membership of the Club, including subscription to the paper 10/6. The Apis Club, The Way's End, Foxton Royston, Herts, England.

IN THE MID-WEST it's Inland Poultry Journal, one year 25 cents, three years 50 cents. Printcraft Bldg., Indianapolis, Indiana.

YOU KNOW THAT A PACKAGE OR COLONY

# WITHOUT A GOOD QUEEN

IS WORTHLESS

Our queens are good as we are honey producers as well as queen and package shippers.

The darker Italians have proved best for honey getting. This is not guessing but actual test for sixteen years of commercial honey production. Demand the dark Italians for production.

| | Queens | 2-lb. pkgs. | 3 lb. pkgs. |
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| 1 to 10 | $ .75 | $2.40 | $3.10 |
| 10 to 24 | .65 | 2.20 | 2.85 |

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## Extracted Honey Wanted

**All Grades, Any Quantity**

Mail sample, Give description, Quote lowest price delivered in Chicago.

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# Strong 3-Frame Nuclei

(Offer 1500) Two-nuclei in painted ten frame hive bodies each of three combs bees with hatching brood, honey and 1940 laying queen. Our hive bodies have a division partition through the center, with screen wire top and bottom. **$3.00** each nuclei. Combination combless packages. 3-lbs. net bees 1940 laying queen, any number **$2.00** ea. State inspected apiaries.

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## STEVENSON'S LINE BRED GOLDENS

Our queens are large, uniform, and very prolific. Our bees are large, the best of honey producers, and so gentle it is a real pleasure to work with us. We are not nervous, and do not swarm until the hive is well filled. What more could any one ask?

So, buy us; try us and you will see, "How Wonderful We Are." Kindly write to

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Practical, quick frame lifter and holder. Price $1.00. Scraper for quick clean work. Price $1.00 or the two for $1.50.

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# THREE-BANDED ITALIANS

| | 1-9 | 10-24 | 25 up |
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| Untested queens | $ .75 | $ .70 | $ .65 |
| 2-lb. pkgs. & queen | 2.40 | 2.25 | 2.00 |
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**A. W. NATIONS** Established 1920 — **DONNA, TEXAS** Quality not Quantity

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Finest of queens and packages. Thousands of colonies and nuclei to draw from. 10 years' experience with my grandfather Mell Pritchard at Medina, Ohio in Root Co. queen yard.

Queens **60c** ea. Discount on large orders. Write for package prices.

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**Leather Colored Italians**

Breeding Queens and Drone Mothers from Northern selected stock.

Queen yards are in charge of O. D. Rivers formerly of Powderly, Texas.

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|---|---|
| 2-lb. pkg. with queen | $2.10 |
| 3-lb. pkg. with queen | 2.75 |
| Queens, each | .65 |

10% off on 50; 15% on 100 or more. Prompt shipment and satisfaction guaranteed

**Walter Orange & Son**

Ocean Springs, Miss. Ruthton, Minn.

**PURE GRAY CAUCASIAN QUEEN**

From imported stock. Leather colored Italian queens and bees. Write for our special prices. Cypress hives, frames and supers at bargains. Can make shipment on bees and queens around the fifteenth.

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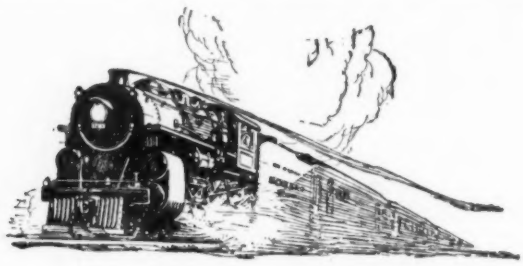

# Index To Display Advertisers


Aeppler Co., C. W. 183
Alabama Apiaries 189
Allen's Apiaries 188
American Honey Institute 190
American Pigeon Journal 187
American Rabbit Journal 178
Australasian Beekeeper 188
Baker Apiaries, The Jay 179
Banta & Wire Inside back page
Beekeepers' Item 187
Bell Apiaries 150
Blue Bonnet Apiaries 144
Bolling Bee Co. 146
Bond Apiaries 180
Bordelon, B. J. 190
Bordelon, E. J. 182
Brock Store 144
Burleson, Thos. C. 150
Burleson & Son, T. W. 147
California Bee & Tool Co. 185
California Bee Breeders 151
Calvert Apiaries 147
Caswell, E. A. 150
Chrysler & Son, W. A. 189
Citronelle Bee Co. 187
Clutter Publications 186
Coffey Apiaries 190
Crowville Apiaries 191
Cutts & Sons, J. M. 144
Dadant & Sons 142, 150, 187
Daniels Apiaries 189
Davis Bros. 150
Dusek Co., Joseph 185
Ephardt's Honey Farms 146
Forehand, N. 185
Forehand & Sons, W. J. 188
Foster, Wade H. 191
Frontier 181
Garon Bee Co. 145
Gaspard, J. L. 182
Gibbs, W. O. 182
Goat World 178
Golden West Apiaries 150
Gooch Apiaries 185
Graham, H. E. 147
Graydon Bros. 181
Great Northern Railway Co. 181
Guilford Apiaries 186
Gulf Coast Bee Co. 144
Harris, A. H. 188
Haselmaier Apiaries 191
Herier, R. B. 144
Holder Apiaries 147
Homan Bros. 181
Honey Bee Apiaries 150
Ideal Apiaries 179
Iverson Honey Co. 183
Jackson Apiaries, D. C. 188
Jenkins, R. D. 191
Jensen's Apiaries 180
Jewett & Sherman 183
Kelley Co., Walter T. 181, 191
Knight, Jasper Inside front cover
Koehnen Apiaries Inside front cover.
LaBarre, R. E. 144
Lewis Co., G. B. 148
Lotz Co., August Inside front cover.
Louisiana Comb Shippers & Honey Producers Ass'n. 186
Lucedale Apiaries 146
Marshfield Mfg. Co. Inside back cover.
Mayeux, B. F. 144
Merrill Bee Co. 188
Meyers, H. G. 188
Mott, E. E. 144
Muth Co., F. W. 146, 180
Myers, Irving W. 150
Nations, A. W. 185
Neal's Apiaries 180, 188
North Texas Apiaries 180
Orange & Son, Walter 186
Overbey Apiaries 187
Owens-Illinois Glass Co. 181
Person & Son, W. 150
Pettit, Morley 189
Piefer & Sons, Wm. 181
Plant, W. E. 144
Pritchard, Lawrence 185
Puett Co. 146
Reif, E. H. 187
Richard, Homer W. 180
Root Co. of Chicago, A. I. 190
Root Co. of Iowa, A. I., Inside back cover.
Root Co., A. I. 188, Back cover
Rossman & Long, Inside back cover
Running, David 189
Rusch & Son Co., A. H. 189
Schaefer, H. A. 179
Shaw, A. E. 146
Smith, Geo. E. 150
Spoerri Apiaries 181
St. Romain's "Honey Girl" Apiaries 180
Standard Churn Co., Inside front cover.
Stevenson's Apiaries 185
Stover Apiaries 141
Stracener Apiaries 181
Superior Honey Co. 145
Taylor Apiaries 187
Valley Bee & Honey Co. 179
Victor Apiaries 146
Weaver Apiaries 179
Wedge Nursery 187
Woodman Co., A. G. 144, 187
York Bee Co. 182

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*Three-Banded Italians*

We can fill your order promptly.

Prices as follows:

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| 5 to 9 pkgs. | 2.20 each |
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| 25 to 49 pkgs. | 2.00 each |
| 50 or more pkgs. | 1.90 each |

3-lb. pkg. with queen 50c extra per package.

Young bees with queens that are guaranteed to be first class or replacement without cost.

**The Crowville Apiaries**
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**THREE BANDED ITALIANS**

| | |
|---|---|
| 2-lb. pkg. with queen, | $2.00 |
| 3-lb. pkg. with queen, | 2.60 |
| Mated queens, each | .65 |

10% discount on 50 packages or more.

*Satisfaction guaranteed.*

**The Haselmaier Apiaries**
MT. VERNON, ALABAMA

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Nuclei 2 and 3 frame size with queen. Large orders delivered by truck to northern beekeepers at a big saving, also 2 and 3 lb. packages. Italian or Caucasians.

*Write for information and prices.*

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Save back breaking work on that big crop.
Save stirring up your producing colony.
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Italian Bees and Queens, nothing but the best, Bright Yellow & 3-band

**QUEENS, 50c each.**

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|---|---|
| 1-lb. bees with young queen | $1.50 |
| 2-lb. bees with young queen | $2.00 |
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Discount on ten or more packages.

*You send for them they go.*

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## VIEW SHOWING PART OF OUR BEEHIVE FACTORY

Here are our men handling long lengths of soft white pine, cutting lumber to length and manufacturing end bars, etc.

# Visit Our Factory

If you visit our factory you will quickly see why we are able to make such fine supplies at such low prices.

(1) We buy our lumber in full carload lots.

(2) We build our own special beehive machinery.

(3) Our factory is located in the country so we have no high city taxes.

(4) Personally owning our factory we have no high priced officials to pay.

It will pay you to visit our factory when the opportunity presents itself, but be sure to get a copy of our large (48 page) 1940 catalog.

**The WALTER T. KELLEY CO., Paducah, Ky.**

*Manufacturers of Bee Supplies*

# THE POSTSCRIPT

Very favorable reports are coming from the few who tried the yellow spider flower, **(Cleome lutea)** last season. One such report is to the effect that the bees worked on buckwheat for about two hours in the morning and then deserted it. In contrast the bees were found to be working the cleome constantly early and late. Even on cool and cloudy days when there was but little flight they visited the cleome.

♦

With the passing of H. C. Cook, of Omaha, another of the old timers is gone. Cook was an unusual man. After spending the best years of his life as a policeman, he took up beekeeping on his retirement and produced crops of honey which were the envy of many of his friends. His city apiary was a place of unusual interest. Hive tops were made of plate glass to permit visitors to get a glimpse of the activity within the colony.

♦

In the March Beekeepers Item, George Bohne takes a crack at me for reporting the Australian experiment of feeding low grade honey to the cows. Bohne seems to think that it would be a waste of a good product. I would like for our friend to sample some of the special grades that now and again play heck with the market by getting into the retail trade. I wish that someone would send him a sample of real wallop such as sometimes comes from chinquapin or sneezeweed. Either of these might lead Bohne to offer sympathy for the cow instead of complaint. I have seen plenty of bitterweed honey that never improved to the point where it would compete with Louisiana "waffle paste" such as Bohne sells. It is true that it is less bitter after the pollen grains settle but I will gamble that Bohne will not take kindly to the pure article unmixed with other sources such as we used to get in the Ozark region.

♦

A letter from south Florida contains interesting comment on the January freeze which did so much damage to all of the South. We are told that there were tons of dead fish along the shore and that it looked strange to a man from the North to see catfish killed by a fifty degree temperature of the water when they withstand so much lower temperatures up here. Many tender plants were killed to the ground and sprouted again from the root as did the bananas and guavas. Many things of course were killed. Frost is a serious hazard to the winter gardener.

♦

And now we learn that goldenrods have been imported into Australia from this country and experimental plantings made to ascertain their value as honey plants. First reports are enthusiastic to the effect that the wonderful masses of flowers are very attractive and worked freely by the bees for honey. Goldenrod is now included in a list of honey plants recommended for planting on the coast of New South Wales, by W. A. Goodacre senior apiary instructor for that country.

♦

It is interesting to hear that brownish-green honey (honeydew) from the spruce trees of the Vosges Mountains in Alsace, France, is on sale in New York at $1.20 per on pound jar. Similar honey from Switzerland and Germany is said to be very popular with certain classes of consumers in Europe. Some of our American beekeepers who have honey of good quality from sources which are not common, are overlooking a fine opportunity in failing to cultivate special market demand for it.

♦

A Wisconsin reader asks for suggestions regarding windbreaks. A suitable windbreak is of the greatest importance for either the beekeeper or the fruit grower. Formerly windbreaks were recommended for the north and west as protection against the cold of winter but of late it is realized that protection against the hot winds of summer is equally important. Windbreaks to stop the hot winds from the south are coming to be planted very generally.

♦

Evergreens are, of course, the best trees for this purpose since they provide a dense growth of equal efficiency in either winter or summer. For a low-growing deciduous hedge I know of nothing better than the tartarian honeysuckle. It is very hardy and does well far north in Canada, will withstand dry weather and makes a dense close hedge when planted about four or five feet apart. It blooms freely and is quite ornamental while yielding nectar very freely. Thus if commonly planted it would provide an abundance of bee pasture as well as protection. It grows to a height of about ten feet. If a heigher growth is needed Russian olive or black locust trees can be planted in a separate row about ten feet behind the honeysuckle and thus give additional bee pasture as well as windbreak.

♦

C. E. Watts, of Coquille, Oregon, writes at length concerning the goldenrods. He mentions having been familiar with several species in the state of New Hampshire but found only one which appeared to be of importance to the bees. From his description I assume that this was the bushy goldenrod, **(Solidago graminifolia)** which is also reported as a good source of nectar from many other places. It is found growing wild from Quebec to Saskatchewan and south to Missouri and North Carolin .

♦

Theo. Keinath, of Vassar, Michigan, sends a clipping from the Michigan Farmer in which L. W. Weeks in "News and Views" announces that he is through with sweet clover. He says that from this on it would take a very high pressure salesman to sell him any more sweet clover seed. It would be interesting to know why this disfavor since he indicates that in the past he has found the plant useful.

♦

Gerald O. Tinnell, of Akron, New York, calls attention to the garden cosmos as a valuable source of pollen. Cosmos are commonly cultivated in flower gardens and always appear to be attractive to the bees during their period of bloom. Unfortunately many of the most attractive bee plants are grown in such limited numbers as to count for but little to the beekeeper.

♦

Food habits have changed in recent years. We no longer eat so many apples while we do eat more oranges. While our population has increased from 92 million to 132 million the number of apple trees has decreased 46% and the number of peach trees 51%. This has been to a large extent the result of the vigorous advertising of the citrus growers who have placed the merits of oranges and grape fruit constantly before the public. If the beekeepers were to drive as hard for markets as the citrus growers have done our present production of honey would be far too small to meet the demand. Instead we make little effort to create new markets but constantly compete with other beekeepers by cutting prices until honey has become one of the cheapest products in the market.

♦

With April we go back to the experimental apiary and the honey plant test gardens for another summer. Letters should be addressed to me at Atlantic, Iowa, until next fall.

FRANK C. PELLETT.